

NILA BANTON SMITH

TEACHER'S GUIDE

— *for* BOOK I

Be a Better Reader

CANADIAN EDITION

MERRION D. JENKINSON

JEAN E. ROBERTSON

PHYLLIS C. SUTHERLAND

CURRICULUM

PRENTICE-HALL OF CANADA, LTD.

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NOTE TO THE CANADIAN EDITION OF THIS TEACHER'S GUIDE

In the preparation of the Canadian Edition of BE A BETTER READER, BOOK I, some selections have been substituted, where applicable, in order to provide a Canadian setting. However, the philosophy of the original series as developed by Nila Banton Smith remains unchanged. The Canadian Edition has retained the developmental sequence of reading skills and the format and types of questions of the original series.

This Teacher's Guide to accompany Book I was thoroughly revised to coincide with changes made in the Canadian Edition of the text.

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PREFACE

In the preparation of the Canadian Edition the subject matter chosen is generally pertinent to junior high school curricula. Specific topics pertaining to Canada were selected to promote an appreciation of this country and her people.

Of particular interest to the teachers will be the "Standard Procedure" for the teaching of a lesson discussed on pages 22 and 23 of the **TEACHER'S GUIDE**", followed by the variations of this procedure for very poor and very good readers.

Regardless of the lesson procedure followed, it is important for the teacher to keep in mind two things:

1. The particular reading skill being developed is of primary importance. The content of the reading selections in **BE A BETTER READER** is only the vehicle by which the reading skill is learned.
2. An important part of reading lessons is the application of the reading skills learned to all types of reading material. That is, each lesson in the **BE A BETTER READER** series must have at least one follow-up lesson in the content areas. For example, following the teaching of a specific skill for reading science material, select the same type of material from the student's science textbook and require the student to apply the reading skill for the understanding and learning of the material. Once the student has become alerted to the value and use of a reading skill he should use it whenever required. The teacher's role is to see that this is done.

Part I

BACKGROUND INFORMATION

CHAPTER ONE: PURPOSE AND USES OF THE BE A BETTER READER SERIES

PURPOSE OF THE SERIES

The BE A BETTER READER series is the only graded set of reading skill development books for grades 7 through 12. These books are designed to develop, maintain, and increase the basic reading abilities and study skills needed by junior and senior high school students in working with all types of reading material. The books also develop special skills needed for studying content in the major subject fields of science, social studies, mathematics, and literature. The teacher is provided with complete procedures for using the books and with such additional information about the subject fields as the selections may require.

The practice of teaching reading in high school is expanding very rapidly throughout the country. As a result high school teachers are being encouraged to take courses in the teaching of reading. At the present time, however, large numbers of high school teachers have not been able to avail themselves of training in reading skill development. With this situation in mind, the materials in the BE A BETTER READER series were prepared in such a way that they may be used with success by teachers who have not had special training in the teaching of reading as well as by those who have had such training. Also, even though the books are designed to teach students to read better in the different subject fields, familiarity with the special subjects beyond the teacher's own is not necessary for successful use of the books. The series can be effectively used either in an all-school reading development program or for remedial work with groups or individuals.

DESCRIPTION OF THE MATERIAL

Each of the first three books contains nine units. Each unit contains a story, a social studies selection, a science selection, and a mathematics selection. Several pages of each unit are devoted to improvement of such common skills as use of phonics; use and meaning of prefixes and suffixes; syllabication; rapid reading and critical reading; location of information in tables of contents, indexes, dictionaries, encyclopedias, and libraries; and vocabulary development in special fields.

The content of the last three books of the series is organized differently from the content of the first three.

In the first three books, the separate subject matter skills are taught in units in which a literature selection, a social studies selection, a science selection, and a mathematics selection are integrated around a single unit theme. The opportunity for practice of additional common reading skills is given on pages interleaved between the units. In the upper grades of high school, subject matter becomes so highly specialized that, in Books IV, V, and VI, separate chapters are devoted to the special approaches and skills needed for reading in the different subjects. One chapter is thus devoted wholly to the reading of literature, one chapter to history, one to science, and one to mathematics. These subject chapters are preceded by several chapters designed to improve ability in the common reading skills needed for all fields.

Preceding each selection in all of the books, the skills to be given practice are explained to the student, and he is given complete instructions for using these particular skills in his immediate work with the selection. Following the selection, one or more "activities" are provided in which the student applies and checks himself on the use of the special skills he has just practiced.

READABILITY LEVELS OF THE BETTER READER SERIES

In terms of interest, content, and skill needs, Book I of this series is intended for grade 7, Book II for grade 8, and Book III for grade 9. Because of ease of vocabulary and paragraph and sentence structure, each of these books can be used with students at lower instructional reading levels. Book I can be used at fifth and sixth grade reading levels, Book II can be used at sixth and seventh grade reading levels, and Book III can be used at seventh and eighth grade reading levels.

Books IV, V, and VI are intended for grades 10, 11, and 12, respectively, but they can be used flexibly with groups or individuals, as appropriate to their particular reading levels, regardless of school grade. The selections in these books, as measured by the Dale-Chall Readability Scale, are predominantly as follows: Book IV, grade 10; Book V, grade 11; Book VI, grade 12.

Teaching procedures for using a particular BE A BETTER READER book at various grade levels are discussed under the title "Adjustments for Other Grades" in Part II of this Teacher's Guide.

Standardized test scores frequently do not determine the exact grade level of a high school reader. Instead of trying to assign one of these books to a group in terms of a specific grade score resulting from a standardized test, you will usually find it better to try out the different books with the group. Then choose the one that is sufficiently easy so that the students do not experience undue frustration, but difficult enough to challenge their ability and to enable them to attain a higher level of reading competence.

WHICH TEACHERS CAN USE THESE BOOKS?

There are almost as many different administrative arrangements for teaching reading at the high school level as there are schools. Apparently each school is working out plans that are best adapted to its particular curriculum and instructional staff.

Basically, however, there are four plans for teaching reading in the high school which are used more widely than others. There are many variations of these plans, but fundamentally most arrangements can be classified under one of these four headings. This series of reading books will be found useful in teaching reading under any of these arrangements.

Reading Taught by English Teachers

One of the most common arrangements is for the English teacher to teach reading as part of or in place of an English or literature course. Such instruction may be offered for a full period or part of a period and given daily or at intervals through the week. In some places in which reading is carried as a part of an English course, it is taught five days a week for a part of a semester, such as seven weeks or ten weeks.

The English teachers who teach reading will be able to use the BE A BETTER READER books whether they are teaching developmental reading to their students in all of their classes or doing remedial work with groups of poor readers. In either case the English teacher should choose from the series the book that is best suited to the level of each group and proceed with the basic skill development program, going from one book to the next as the students advance.

The English teacher need not be concerned because some of the selections in these books have to do with social studies, science, and mathematics, as well as literature. A very large portion of the content has to do with the development or maintenance of skills that basically fall within the field of English: word pronunciation; vocabulary building; literal comprehension; interpretation and critical reading; finding main ideas; grasping and organizing details; speed reading; and so on. Teaching the skills needed for enjoyment of the narratives is a "natural" for the English teacher. As for the social studies, science, and mathematics selections, specific instructions are given to the student in his text for working with these specialized types of subject matter. Then, too, the selections have been carefully constructed to be self-sufficient insofar as subject matter is concerned; they do not presuppose prior acquaintance with technical details. The Teacher's Guide aids the teacher in giving any additional instructions and explanations that conceivably may be needed. Thus, these books make it possible for any teacher with an English background to develop the reading skills that students need for the special subjects.

Reading Taught by a Reading Specialist

A very common arrangement is one in which one teacher devotes his or her full time to reading instruction. Such an instructor usually has the title of "Reading Teacher," "Reading Specialist," or "Reading Consultant." This teacher may teach developmental reading, or remedial reading, or both. In the past, the reading specialist has devoted his or her time exclusively to groups of students or individuals who were below their normal grade level in reading. Recently, however, there is a strong trend toward adding to the staff a reading specialist who devotes full time to reading improvement for all students in all or several of the high school grades.

If you, as the reading specialist, teach remedial reading, your first step of course is diagnosis. After you find the instructional level of the remedial reading cases you are to teach, you will group them according to their reading level and needs, or plan to teach them individually. In either case, select from the BE A BETTER READER series the book that is best suited to each group or individual.

No doubt you have discovered that standardized tests frequently fail to indicate the right instructional level of a remedial case. It is usually advisable to try out different books directly with a remedial case until you find the one that is most appropriate for him. After he has finished that book, he then should be able to use the next book in the series, and so on.

If you teach developmental reading, you will, of course, use a different book at each grade level beginning with Book I.

Reading Taught by a Core Curriculum Teacher

In high schools using the core curriculum, the core teacher often teaches reading for twenty minutes or some other part of the daily schedule. This instruction ordinarily is developmental reading for all students. The teacher would like to teach reading skills in connection with the core problems or topics, but skill development material in reading related to these topics is not available. The BE A BETTER READER texts I, II, and III should prove especially valuable to core teachers in meeting this problem.

If you are a core teacher, you probably teach in grades seven, eight, or nine, for these are the grades in which the core curriculum is most frequently used. Being a core teacher, you know that the majority of your core topics have their roots in social studies or science. The topics of the units in the first three books of this reading series were chosen because they are the ones that occur with highest frequency at the respective grade levels from seven through nine. Therefore, you, as a core teacher, are apt to find reading skill development units in these books that reinforce the subject matter pursued by your students in connection with their core problems.

Reading Taught by Special Subject Teachers

Some schools have attempted to develop a reading program in which each of the special subject teachers is supposed to teach reading skills that are needed in working with the subject matter in that particular field. Some special subject teachers have made a fine beginning in taking on responsibilities for the teaching of reading. Often, however, special subject teachers find that they have two serious handicaps when they begin to teach reading in their special fields: (1) they usually have not been trained as reading specialists and are not equipped with the background knowledge and techniques necessary for teaching reading effectively; (2) up to this time the reading skills needed in special subject areas have not been clearly analyzed and delineated, and the special subject instructor doesn't know exactly what skills to develop.

The subject teacher who has not specialized in reading can teach the basic reading techniques needed in his or her field with the use of these reading books, because of these provisions: (1) the special skills are singled out and named; (2) these skills are developed with the student directly on the pages of his own book; (3) the Teacher's Guides provide additional concrete help to the subject teachers in the way of explanations and procedures; (4) "carry-over" suggestions are given with which the students can apply the skills learned in their reading books to the regular work in their courses.

In cases in which the students are to be taught reading by teachers in the four different areas of specialization, it is suggested that students carry their books with them from class to class. The English teachers may have their students do the sections that have to do with the reading of narratives; special work in word recognition; use of syllabication, antonyms, synonyms, and multiple meanings; and the initial development of such common skills as rapid reading and locating information.

Social studies teachers may work with their students on the social studies selections and special social studies vocabularies. Likewise, the science teachers may teach the science selections and science vocabularies, and the mathematics teachers may teach the mathematics selections and the mathematics vocabularies.

If several teachers work with students who have the same book, it is convenient for each teacher to have the Teacher's Guide that accompanies each of the books the students are using. The teacher will need to consult these guides frequently for procedures to use in teaching the selections in the field. And, of course, the answers to all of the activities are in the Teacher's Guides.

CHAPTER TWO: SELECTION AND PREPARATION OF THE CONTENT IN BOOK I

HOW TOPICS FOR THE SELECTIONS WERE CHOSEN

The material in each unit of Book I, Canadian Edition consists of: (1) a narrative; (2) a social studies selection; (3) a science selection; (4) a set of problems in mathematics; and (5) several pages devoted to development of reading skills common to all subjects.

The plot for the narrative in each case was devised or selected with two purposes in mind; (1) to capture the interest of teen-agers; (2) to provide content that would lead into and motivate the reading of the social studies, science, and mathematics selections that follow.

The problems in each mathematics selection are based upon the narrative, the social studies selection, and the science selection that immediately precede. The mathematical processes used in the problems are those that beginning high school arithmetic books have in common.

The content of the pages devoted to common skills will be discussed in this book on pages 13-14.

HOW THE SELECTIONS WERE PREPARED

The stories for the most part were written especially for this book by well known writers of juvenile literature: Carroll Tarre Fenton, Aileen Fisher, Ivy Bolton, William McKellar, Richard Elam, Olive Rambo Cook, and Margaret Alison Johnson. In most cases, a plot was drafted for the story writer and specifications written for developing the story in terms of the particular purposes that the story was to serve. The story writer then wrote the story. Adaptations were made as necessary in order to simplify vocabulary, sentences, and paragraph structure and to adjust total length.

The social studies selections were written especially for this book by social studies specialists. These specialists were procured to do this writing

because of the desirability of having the social studies material, in the reading book, closely approximate the specialized kind of text that appears in social studies textbooks. The writers for the most part are well-known authors of social studies textbooks at the high school level. The names of the writers are Samuel Steinberg and John Heine. As in the case of the stories, outlines were drafted for each article and specifications written for it. Adaptations were also made in the completed article in the interest of simplification and provisions for specific skill development.

The science selections were similarly prepared. So that they might closely approximate the science material that high school students find in their science textbooks, well-known authors of science textbooks and other science specialists at this level were invited to prepare the selections. Their names are: Maurice U. Ames, Gordon Van Hooft, Alden W. Smith, Leo Schneider, Irving Zeichner, Anne E. Burgess.

The sets of arithmetic problems were prepared by Donald W. Lentz, co-author of junior high school arithmetic texts, and Francis J. Mueller, Professor of Mathematics at State Teachers College, Baltimore, Maryland. These problems were prepared to meet specifications drawn up by the author of the series, so that each set might be integrated with the story, the social studies selection, and the science selection that precedes it and also to ensure inclusion of arithmetic topics and processes found in the arithmetic texts that were surveyed in preparation for planning the texts.

HOW THE SKILL PROGRAM FOR SPECIAL SUBJECTS WAS DEVISED

Investigators have proved that special reading skills are used in different subject matter fields. There have been accounts of experiments in which investigators have singled out special skills in certain subjects, given them practice, and found that marked improvement has taken place.

Up to the time of the preparation of these books, however, no one had reported a thorough study of skill needs in the different subject fields. Such a study was attempted in preparation for writing these texts.

This study consisted of an analysis of widely used textbooks in the different subject fields. The text of each book was analyzed to find out if different patterns of writing were used, since different patterns call for different reading skills. In addition to an analysis of the text in the chapters, an analysis was also made of the questions, directions, explanations, and exercises of various types that the books contained. All of these aids and exercises in which the students are supposed to make a response are significant. They are indicative of the ways in which the subject specialist wants students to think and work with material in his particular field in order that they may absorb facts, understand content, sense relationships, recall, and make applications of the subject matter which he presents.

The skill situations that occurred with highest frequency in all books analyzed in a certain subject field were those selected for development in the BE A BETTER READER texts, Canadian Edition. The skill analysis made use of textbooks at all grade levels in junior high school and in high school. It was interesting to find that the same fundamental skill situations in each subject field occurred with high frequency in all textbooks regardless of the level. The situations in which the skills were used became more abstract, and higher levels of thinking were required in the books intended for the higher grades, but the fundamental skill situations were usually the same at all grade levels at which the special subject was taught.

The skill situations listed on the following pages were found to be common to several textbooks within a given field, and they are the ones provided for in Book I. The numbers following each item indicate the pages in Book I on which provision is made for the development and practice of special skills relating to that item.

It will be noted that major skills are given several repetitions. An examination of the activities provided for repetitions of any one major skill, such as finding the main idea in a paragraph, will show progressive development. Each repetition of the skill makes use of the foundation previously laid and adds another step or calls for application in a more complex situation.

Each of the major skills is repeated in Book I. Space, however, does not permit a sufficient number of repetitions to fix all of these skills. This book initiates the skills, informs the student what skills are needed in certain situations, and shows him how to use these skills. The repetitions that will make the skills permanent should come as a result of his immediate and continuous application of these skills to the books he is using in his other courses. If his teachers encourage him to use the skills he is learning while working with books in meeting his regular assignments in science, social studies, mathematics and literature, then this functional repetition will cause the skills to become permanent and to serve the student to the best advantage in his present and future study.

Science

Analysis of high school textbooks in science reveals five distinctive patterns of writing. Each of these patterns calls for a different set of reading skills. One kind of science text is written in the classification pattern, in which living things or objects are classified and their likenesses and differences are pointed out. A second pattern is the technical explanation of processes, usually accompanied by diagrams, necessitating very careful reading and continuous reference to the diagrams. A third pattern is found in the experiments, which consist largely of explicit directions that must be carried out exactly and which call for the formation of a conclusion. There are problem-solving sections, in which a problem is stated and explanations are made of how scientists have solved the problem. Then there are sections of text that do not follow any of these patterns, but simply give factual information about some science topic. Such material is usually packed with details and is difficult to read.

In addition to the different patterns of text, other skill situations in science books occur with high frequency and call for special kinds of reading. These are listed below, after the different patterns of writing.

Identifying and using specific skills needed in reading different patterns of science writing: classification of science facts, 20-21, 50-51, 92-93, 104-105; explanation of a process, 64-65, 78-79, 104-105, 120-121; experiments, 35, 120-121; detailed factual material, 64-65, 104-105, 120-121; problem-solving text, 6-7, 34-35, 104-105. Other special skills developed are: answering specific questions, 20-21, 34-35, 64-65, 104-105, 120-121; classifying and outlining, 20-21, 50-51, 92-93, 105; drawing conclusions, 34-35, 110, 121; finding the main idea in paragraphs, 34-35, 44, 58, 104-105; grasping cause and effect relationships, 78-79, 104-105, 120-121; interpreting diagrams, 64-65, 78-79; listing steps of a process in sequence, 65; applying science information to one's own life, 93; reading pictures of science objects and situations, 20, 34, 50; recalling science facts, 64-65, 78-79, 105; previewing with the use of boldface or italicized headings to identify problems, 6-7, to identify classifications, 20-21, 50-51, 92-93, to identify processes to be explained, 64-65, 120-121, to convert headings into questions, 34-35, 104-105.

Social Studies

The content of social studies books is usually somewhat easier to read than science text because social studies writing often resembles narrative, particularly in some of the more recent books. It does, however, have its own distinctive characteristics.

The most common pattern in history books is that of detailed information given in historical sequence, describing each event as it leads up to the next. Reading to sense causes and effects is important. In fact, the ability to note causes and effects is needed more frequently in social studies than in any other area. Another necessary reading skill in history is that of following time sequence and associating dates with events. The ability to read critically and to discriminate between fact and opinion is essential. Ability to read graphs and statistical tables is frequently required.

In geography the pattern is also usually that of detailed information interspersed with almost continuous reference to maps and pictures. Map-reading and picture-reading each entails its own set of characteristic skills, and these skills are needed in addition to the skills required in grasping main ideas and detailed facts. The abilities to sense cause and effect relationships and to make comparisons are frequently needed. Ability to organize what has been read is very often required in answering questions or working with the exercises in both history and geography textbooks.

Social studies books proper, of course, make use of the combined skills needed in reading history and geography text.

The high-frequency situations calling for different kinds of reading skills found in high school history, geography, and social studies books are listed below.

The numbers indicate the pages in Book I on which reading skills needed in meeting these situations are developed or given practice.

Reading maps: to associate proper names with topographic features, 18-19; to associate titles with the content of maps, 32, 48; to draw conclusions, 18-19, 32, 90-91; to interpret altitude, 18-19; to interpret temperature symbols, 19; to interpret weather symbols, 76-77; to make comparisons, 18-19, 32; to note topography, 48; to trace routes, 103; to use mileage scales, 18-19, 106. Other special skills developed in working with social studies material are: noting the sequence of historical events, 4-5, 62-63; recalling historical events in sequence, 32-33, 62-63, 118-119; associating dates with events in sequence, 80-81, 77, 90-91, 118-119; grasping significance of dates in a continuous time-line, 118-119; organizing and outlining social studies facts, 32-33, 62-63, 76-77, 102-103; critical reading, 124-125; finding main ideas, 44, 48-49, 58, 62-63, 102-103, 118-119; grasping details in social studies text, 76-77, 102-103; formulating questions, 4-5; finding answers to specific questions, 4-5, 118-119; reading graphs based on social study topics, 80-81, 122-123; reading pictures for social studies information, 118; sensing cause and effect relationships, 32-33, 90-91; summarizing, 102-103; taking notes, 102-103; relating details in a paragraph to its main idea, 44, 48-49, 58, 62-63; converting headings into questions, 104-105, 118-119; previewing with the use of boldface headings to grasp sequential events, 4-5, 90-91; to identify major questions to be answered, 18 19; to note topics to be discussed, 32-33; to convert topics into questions, 118-119, 104-105.

Mathematics

Mathematics text is unique in that it requires methods of reading that differ markedly from those appropriate to narrative and the text of geography, history, or science. Mathematics text is more compact than text in any of the other fields. It is complicated also by numerical symbols woven into sentences along with word symbols; every one of these symbols, whether word or numerical, must be taken into consideration. Detailed directions and exact explanations must be understood and used. Problems calling for a careful weighing of relationships and a high level of reasoning must be solved.

Teachers of mathematics often say, "If he could read, I could teach him mathematics." They are probably right!

Problems constitute the great bulk of the reading text in mathematics books. Each problem states some problem situation in word, symbols, and numerical symbols and follows this statement with a question or direction that asks or demands a solution. The problem is a very distinctive pattern of reading in itself. When students try to read this pattern in the same way they would read a story, the result is most unsatisfactory. They need to be taught how to read this particular kind of text.

This type of content requires a first reading for the purpose of visualizing the scene or situation as a whole. Grasping the setting in which the problem takes place gives meaning to it. This will not be difficult for the student, but his attention should be called to the need for getting the mental picture of a problem first of all. He should be given some guidance in doing this through such questions

as: "What did you see when you read that paragraph?" or "If you were to paint a picture to illustrate the paragraph, what would you put in the picture?"

Concentrating upon the significance of a question at the end of a problem paragraph is a distinctive skill needed in solving arithmetic problems. A student seldom encounters a question in the text while reading a story. If he does, the question has probably been asked for rhetorical effect, and it doesn't matter whether he answers it or not. In problem-solving, everything depends upon the question or direction that usually appears at the end of a problem. Most students need to have considerable experience in reading problems just for the purpose of finding out, "What does the question ask you to do?" or "What does the direction tell you to find?" Then they should be able to tell in their own words what they are asked or told to do.

Other distinct and more complex skills are involved in rereading the problem to analyze it into elements necessary for solution. Students need to reread parts of the problem to get clearly in mind the facts they are given to use in solving the problem. In many cases, it is helpful at this point for the students to read the entire paragraph again to ascertain the relevancy and relation of details leading to a decision in regard to the process or processes they should use. In the light of all of this reading, as a check upon it, the next step is to estimate an answer in round numbers to see whether or not it is reasonable. Then the student is ready to write the numbers on paper and do the computation.

Up to this very last step the work has been concerned largely with reading skills. Many of these skills are of a type that are not required in connection with the reading of text in any other subject.

Since, as has been stated, the great preponderance of the content of mathematics books is given over to problems, the major emphasis in the mathematics sections of the BE A BETTER READER texts, Canadian Edition, is on those reading skills called for in working with such problems. Other skill situations commonly appearing in mathematics textbooks and demanding special kinds of reading are also recognized, however. The several different reading skills needed most frequently in reading textbooks in mathematics are listed below. The numbers following each item indicate the pages in Book I on which these skills are given practice.

Reading problems to: visualize the setting, 8-9, 22-23, 36-37, 52-53, 66-67, 94-95, 122-123; answer the question, "What are you to find?" 8-9, 22-23, 36-37, 52-53, 66-67, 94-95, 106-107, 122-123; find "What facts are given you to work with?", 22-23, 36-37, 52-53, 66-67, 94-95, 106-107, 122-123; decide what process to use, 36-37, 52-53, 66-67, 94-95, 106-107, 122-123; estimate the answer, 66-67, 94-95, 122-123. Other skills: reading graphs, 80-81, 122-123; measuring mileage on a map, 18, 106-107; plotting diagrams to a scale and interpreting plotted diagrams, 106-107, 119, 122; comparing numerical quantities, 122-123; computing timed reading scores with the use of a formula, 45, 47, 59, 61, 75, 89, 91, 101, 105, 117, 119, 121; following directions for working with numbers, 8-9, 22-23, 36-37, 52-53, 66-67, 80-81, 94-95, 106-107, 122-123; following directions and answering questions when combined in the same section of text, 106-107.

Literature

Literature is an appreciation subject rather than a skill subject. While the basic skills of word recognition and comprehension are necessary in reading literature, students do not have to master subject matter in literature as they do in social studies or sciences, nor do they have to develop special skills as in the case of mathematics. Literature is read for the purpose of reliving and enjoying crystallized human experience as portrayed by a gifted writer.

In the first three BE A BETTER READER texts, Canadian Edition, less attention is given to literature than to the other three subjects because appreciation of literature is something that needs to be developed through oral discussion carefully guided by the English or reading teacher. Narratives are included in these books largely because they are needed to stimulate interest in each new unit, to serve as a medium in contrasting this type of content with content in the other three subjects, and to furnish introductions to selections in the other subject fields.

A series of comprehension questions follows each narrative. These are not intended for use in developing special skills or appreciations. They are included in order that some objective comprehension score may be obtained to accompany the rate score which the student achieves while reading narratives under timed conditions. All narratives are read under timed conditions, beginning with page 45, and increases in rate can be expected. Speed without comprehension, however, is meaningless. These questions are a check on comprehension and lend themselves to scoring.

A set of discussion questions also follows each narrative. These questions are used to develop deeper meanings, enjoyment, appreciation, and emotional response. No scoring is to be done in connection with the discussion questions. These are thinking questions, and each student should feel free to say what he wishes concerning them.

An analysis was made of sections of text calling for student responses in several high school literature books. The appreciation activities listed below occurred with the highest frequency in these literature books. Students have an opportunity to experience these typical appreciation activities in connection with the narratives that they will be reading in Book I. The numbers in the following paragraph indicate pages on which students are given experience in each different type of activity. No page is devoted entirely to one type of activity, but among the discussion questions on a given page one or more of the questions is directed toward a particular purpose as indicated below.

Appreciation activities: Vicariously reliving the experiences of characters, 2-3, 16-17, 30-31, 46-47, 116-117; drawing inferences in regard to deeper meanings, 3, 17, 31, 47, 61, 75, 89, 101; explaining the meaning of selected phrases or sentences, 46, 61; recognizing and understanding factual background on which a narrative is based, 46, 61, 75, 88-89, 100-101, 116-117. Other activities are as follows: comparing characters, 31. Identifying qualities of characters, 3. Deciding upon: action reader would have taken had he been in character's place, 47, 89; emotion reader would have felt if he had been the character, 3, 11, 75, 89, 116;

replies reader would have made to others had he been the character, 47. Evaluating a character's actions, 17, 61. Finding proof in text, 17, 31. Formulating a more satisfying ending, 101. Anticipating a different ending in case an incident had been different, 47. Reading to substantiate a title, 16. Sensing: cause of a character's behavior, 31, 47, 61, 75, 89, 100, 117; emotions of characters, 3, 61, 89; significance of an event, 47. Visualizing word pictures, 30, 101.

Checks of literal comprehension are made on pages 3, 17, 31, 45, 61, 75, 89, 101, 117.

COMMON SKILLS

There are several important skills that are used in common when reading any kind of material. Some of the common skills do not seem to give junior high and high school students much trouble. Many students, however, are woefully lacking in others.

Lack of ability to understand meanings is a very general deficiency. The author believes, however, that at the high school level this skill, which is usually considered a general skill, should also be broken down and treated as needed in specific subject fields. Therefore, in the BE A BETTER READER texts, Canadian Edition, the skill commonly called "comprehension" is not taught as a single composite skill. This explains why "understanding meanings" is not listed as one of the common skills.

The skills that are listed below are commonly applied to all types of subject matter, and they are those common skills in which the author has found large numbers of high school students to be deficient.

These common-skill needs were determined through the following types of study: (a) analysis of the results of standardized reading tests given to high school students; (b) informal diagnosis of high school students while reading textbooks in the different subject fields; (c) observation of high school students as they proceeded with their regular classroom work.

According to these studies, the common skills needing attention are those listed below. The numbers following each item indicate the pages in Book I on which attention is given to that particular skill.

Use of Phonics in Pronouncing New Words. Reviewing identification, sounds, and applications of consonants and consonant blends, 11, 12, 13-14, 24, 26, 42-43, 55; of speech sounds, 24, 25, 26; of vowels, 10, 15, 27, 28, 38, 39, 42, 55; of vowel principles, 27, 28, 42, 43; of diacritical marks, 14, 38, 55.

Use of Word Structure Techniques in Pronouncing New Words. Identifying and grasping meanings of compound words, 54, 70; of root words, 70, 86; of prefixes, 70, 86, 98, 126; of suffixes, 70, 86, 98, 127. Reviewing syllabication, 40, 41, 42, 43, 55, 56; syllabication principles, 41.

Use of Context Clues in Pronouncing New Words. Using context as an aid: 26, 57, 71, 72, 73, 84, 85, 87, 96, 97, 99, 113, 114, 115.

Applying a Combination of Word Attack Techniques. Opportunities are given to apply a combination of word attack techniques in pronouncing new words on 42, 43, 57, 71, 72, 73, 84, 85, 87, 96, 97, 99, 113, 114, 115.

Location of Information. Practice in the use of dictionary skills, 108, 123; of encyclopedia skills, 108; of index, 82-83; of card catalog, 109; of table of contents, 68-69.

Study skills such as finding main ideas and main topics, grasping and organizing details, recalling facts.

Rapid Reading. Awakening interest to develop speed, 29. Breaking habits that retard speed, 29. Developing concepts of taking in several words at a glance, 29, 30-31, 44-45, 59. Practicing timed reading with narratives, 44-45, 46-47, 60-61, 74-75, 88-89, 100-101, 116-117; with science material, 104-105, 120-121; with social studies material, 90-91, 118-119.

Use of Boldface and Italicized Headings. In science, 6-7, 20-21, 34-35, 50-51, 64-65, 92-93, 104-105, 120-121; in social studies, 4-5, 32-33, 90-91, 102-103, 118-119.

VOCABULARY DEVELOPMENT

Enriching the vocabulary of students contributes substantially to reading improvement. Not only do students need to have special attention given to antonyms, synonyms, and multiple meaning words, but also to the technical words inherent in the content of different subjects. One reason students have difficulty in reading science, social studies, and mathematics material is the specialized vocabularies in these fields. The skillful teaching of reading at the high school level demands attention to the meaning and pronunciation of words commonly met in these different subject areas.

In view of this consideration several pages are devoted to special vocabulary development in Book I and each successive book of the BE A BETTER READER texts, Canadian Edition. In each vocabulary section students are acquainted with the pronunciation and meaning of special words in science, social studies, or mathematics. They are then asked to use these words in sentences that contain blank spaces where the special vocabulary words should be. This is a check on their understanding of the special meanings.

The pages on which special vocabulary work is offered in Book I are indicated below.

Increasing vocabulary in special fields: arithmetic, 96, 114; science, 6-7, 20-21, 34-35, 42, 57, 85, 97; social studies, 4-5, 18-19, 32-33, 48-49, 72, 84, 113; narratives, 2-3, 16-17, 30-31, 60-61. Preparation for new units, 43, 73, 87, 99, 115. Work with special word types: antonyms, 111, synonyms, 112; multiple

meaning words, 128, selecting the right definition for a word in given context, 123.

The selection of words for vocabulary development in these books was based upon lists resulting from scientific studies made by the author and others. In the preparation of these reading books, the author made a vocabulary study of science, arithmetic, social studies, and history textbooks in wide current usage at all high school levels. The specialized words, which were common to all books studied in each subject field, were listed as a next step. These lists were then checked with scientific lists which had previously been determined by Barr and Gifford,¹ Brooks,² Cole,³ Curtis,⁴ Dale,⁵ Pressey and Pressey,⁶ Stephenson,⁷ and Stephenson and McGhee.⁸ The common lists were then used as a basis for vocabulary development in these reading books.

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1. Barr, A. S. and C. W. Gifford, "The Vocabulary of American History," Journal of Educational Research, XIX, September 1929, pp. 103-121.
 2. Brooks, S. S., "A Study of the Technical and Semi-Technical Vocabulary in Arithmetic," Educational Research Bulletin, 1926, pp. 219-222.
 3. Cole, Luella, The Teacher's Handbook of Technical Vocabulary, Public School Publishing Company, Bloomington, Illinois, 1940.
 4. Curtis, Francis D., Investigation of Vocabulary in Textbooks of Science for Secondary Schools, Ginn and Company, Boston, 1938; pp. 94-114.
 5. Dale, Edgar, "What Business Vocabulary Should We Teach in Junior High School Arithmetic?" School and Society, XXXI, September 20, 1930, pp. 850-895.
 6. Pressey, L. C. and S. L. Pressey, "Determination of a Minimum Vocabulary in American History," Educational Methods, XII, October 1933, pp. 205-211.
 7. Stephenson, O. W., "The Special Vocabulary of Civics," Journal of Educational Research, XVII, November 1928, pp. 297-304.
 8. Stephenson, O. W. and W. R. McGhee, "Vocabulary Common to Civics and American History," Journal of Educational Research, XXII, June 1930, pp. 55-58.

CHAPTER THREE: CHARACTERISTICS OF EFFECTIVE HIGH SCHOOL READING PROGRAMS

Generally speaking there are two types of reading programs in high school: developmental and remedial. This chapter contains a discussion of important factors which contribute to successful instruction in each of these programs.

DEVELOPMENTAL READING

What Is Developmental Reading?

Developmental reading is the term applied to reading instruction that is provided to all students at each successive level of development as they pass through the school grades.

Reading is a continuous growth process. We have not yet found the end point of reading achievement. It is entirely possible for all students, even though they are good readers to start with, to improve their reading abilities. Even excellent readers can pass from one new achievement level to the next during their high school years if direct instruction in reading is provided to them in all of the high school grades. Ever increasing numbers of high schools are initiating all-school reading improvement programs throughout the high school years.

Marked improvement in high school reading does not come about simply as a result of incidental teaching of reading or of greater amounts of reading. It comes only as a result of direct and carefully guided instruction and practice specifically designed to meet the needs of high school students.

High school reading instruction should differ from reading instruction in the elementary grades. Foundation for all of the skills should have been laid in the primary grades. Further application, refinement, and extension of these skills should have been made in the middle grades. When students come into the junior high school, there should be few or perhaps no really new reading skills to initiate. Yet reading instruction in junior and senior high school should be different in many respects from that in the elementary grades.

Review Is Necessary. In the first place, continuous review is necessary. Skills developed in the elementary grades must be kept alive in high school. Reading skills do not take root and flourish as the result of a high school lecture or explanation. Nor do they become established by using them in certain grades and then forgetting about them. Consider the case of Tom, a high school student who continuously stumbled over new words and couldn't pronounce them although he had been given excellent instruction in methods of attacking new words while he was in the primary grades. When he reached the high school grades, no one had helped him to keep this information freshly in mind and had encouraged him to continue to make use of it. So he just forgot about the whole thing, and his early instruction in this phase of reading was lost. In Tom's case, and in the case of most students, continuous review and application of all reading skills are necessary throughout the high school years.

Just offering a review of elementary skills, however, is not sufficient. Students in high school must be given guidance in refining these skills and in applying them to material that increases rapidly in difficulty. Concept burden is heavier, density of ideas is more prevalent, abstract symbols are more numerous. Learning to apply the old skills to this more difficult new material is a big

step to take. Making this transition is another important characteristic of reading instruction at the higher levels.

At the high school level there should be a shift of emphasis upon several of the basic skills, or certain aspects of these skills, in terms of the changing needs of students in the high school grades. Some of these changes in emphasis will be discussed below.

Study Skills Are Most Important. The study-skills area of reading instruction needs intensive emphasis at this level. I refer to those skills needed by students when studying in the various subject fields: science, social studies, mathematics, and the others. Investigations have shown that many reading skills overlap in different subject areas, but there are also many striking differences. Studies have also shown that when a special subject skill is singled out and given practice, growth takes place. These studies have very great significance for the teaching of high school reading. The implication is that reading and study in the different subject fields can best be promoted by the development of specific skills needed in reading certain kinds of subject matter, in addition to continuous practice on the common skills.

Word Attack Skills Should Be Taught on a Higher Level. Trouble in pronouncing new words is a prevalent difficulty in high school. The vocabulary load in textbooks becomes extremely heavy in these grades. Very few, if any, high school textbooks are graded in vocabulary. Students suddenly have thrust upon them books in which they confront dozens and dozens of new words. Not only are the new words much more numerous than formerly, but they usually consist of several syllables, and affixes are used with great abandon.

All of this means that the average high school student needs to continue the use of all word attack techniques: picture clues, context clues, phonics, structural analysis, and use of the dictionary. These techniques, however, should be taught at a higher level than in the elementary grades and in a context appropriate to the dignity of high school students. Special emphasis should be placed upon syllabication and upon work with roots, prefixes, and suffixes.

Special Subject Vocabularies Need Attention. Each high school subject carries its own special vocabulary with it. One of the most serious handicaps with which a high school reader has to cope is that of learning the pronunciation and meaning of new words in the special subject areas. Particular attention should be given to vocabulary work in science, social studies, and mathematics.

Instruction in Meanings Should Take on New Emphases. The skill area that is concerned with meanings takes on new dimensions and demands a new emphasis at this time.

We have been prone too often to brand everything that we do in the meaning area with the blanket term "comprehension." In meeting the needs of high school students, careful distinctions must be made. There is, for instance, literal comprehension, in which we get only the direct message as it is stated in so many words in the text. Then there is interpretation, in which we sense less apparent meanings, arrive at inferences, draw conclusions—all of which are not stated in

the printed lines. Finally, there is the type of meaning-gathering called critical reading. In doing this type of reading, we not only use literal comprehension and also interpretation but we go farther and pass judgment upon the authenticity of the text and the purpose of the writer.

The most pressing needs of high school students lie not in the literal comprehension area but in the interpretation and critical reading areas. These aspects of meanings should receive the strongest emphasis in all high school grades.

Development of Speed Is Essential. The high school student needs to develop greater speed in reading. He needs to increase his rate in order to cover the greater amounts of reading material which he has to cover at this level. He needs to develop a faster tempo in order to be able to meet the heavy reading demands ahead, not only in high school but in college and after. Thousands of adults throughout the country are now coming back to reading centers to learn how to read more rapidly. Speed is one of the easiest skills to develop. It should be taught in our high schools now so that the present generation of students won't have to take speed-reading courses when they become adults. Junior high school is not at all early to begin special work designed to increase rate in reading, and speed instruction should be continued throughout the senior high school. Speed work, of course, always should be accompanied by comprehension development and checks. Increase in speed alone is without value.

Flexibility in the Use of Skills Should Be Stressed. Another need of high school students is that of developing greater flexibility in the use of the different reading skills, including rate. Students at the high school level often use the same skills and the same speed regardless of whether they are reading an easy narrative for enjoyment or a science article to obtain detailed facts. They should be taught to adjust their speed and other skills to the type of content they are reading and the purpose for which they are reading it. Reading versatility deserves much attention at this time.

The needs discussed under the several headings above are among the most important ones which the BE A BETTER READER series was designed to meet. With the use of these books, students should be prepared to enter with assurance and success the new frontiers of college study and adult reading in life beyond school.

REMEDIAL READING

What Is Remedial Reading ?

Since such large numbers of students with reading deficiencies are coming into the high schools these days, there is a dire need for basic reading material that will equip these students as rapidly as possible with the basic reading skills they need in working with the high school subjects. One of the most important functions of this reading series is to meet the needs of such students.

The term "remedial reading" is generally applied to instruction provided to those students who are below their normal grade level in reading achievement. This term is rapidly falling into disrepute because it implies that there is some "remedy" which will effect "cures" in reading. The term came into existence when school people first began to work with children who were reading failures. At this stage, efforts were directed toward finding some method, gadget, or particular type of reading content that would work magic in teaching the poor reader to read. As the years have passed, we have come to realize that there is no special reading "remedy" that will "cure" all poor readers. It is widely recognized now that the most effective remedial teaching is just good developmental teaching adjusted to the student's own level of reading achievement and to his particular need of basic skills. Reading improvement would be a better term to use than "remedial reading." Since, however, the term "remedial reading" has come to have such a common usage, the author will use this term in the following discussion to avoid any possible misunderstanding.

If you are a teacher of remedial reading, you know that the basic needs of the poor reader are: (1) material that is easy enough to be within his instructional level; (2) material that is interesting to him; and (3) material that builds the needed skills as rapidly as possible. Briefly the following paragraphs tell how the BE A BETTER READER series meets these needs.

Easy Material Is Necessary. Easy reading material is provided in this series through control of concepts, vocabulary, sentence length and structure, and paragraph length and structure. While the books are based on subject matter suitable for junior and senior high school students, the vocabulary and sentence structure have been simplified. Book I can be used with remedial cases who are as low as sixth or seventh grade reading level; and so on. Since the books in the series represent so many different levels of difficulty, the remedial reading teacher may start a retarded reader in whichever one of the books is best suited to his instructional level and then proceed to use one successive book after another with him until he reaches his normal grade level. Of course, students who are at fourth grade level or below should begin with elementary readers or other elementary materials.

Interest Factors Are Important. The interest features of these books were especially planned with the remedial reader in mind. Once the poor reader begins to achieve increased skill in reading, he is usually so happy in his achievement that it doesn't matter too much what he is reading as long as he can pronounce the words, answer the comprehension questions, and gain in speed. At the outset, however, the reading content with which he works should intrigue him.

High school students with reading deficiencies seldom want to read the classics. Nor do they want to read about the marvels of our country, or the achievements of our famous citizens such as John A. Macdonald and Georges Etienne Cartier. We hope they will develop interest in such material later, but they don't possess it to start with. They put such books aside after one glance. But if the teacher brings a book on space ships into the room, they may literally engage in physical combat to see who can take the book home that

night. Space travel seems to be the subject of highest interest to remedial readers at the present time. Hence the use of this topic as a basis for several selections in this series of reading books.

As a general subject, science is of more interest to retarded junior and senior high school readers than any of the other subjects. Animals, plants, all living things; the human body and what is good for it; mechanical contrivances and what makes them work; these are science topics which the author has found of special interest to reluctant secondary school readers. These topics are developed throughout this series of books.

In social studies the poor reader usually is not particularly interested in following through the episodes of history. He is interested, however, in the thrilling adventure of some other student of his own age, either in a historical setting, or in the contemporary environment of another country. He is also particularly interested in all transportation facilities and how they work—not only space ships but airplanes, automobiles, boats, and engines of all kinds. Modern communications media such as television, which touches his life closely, are also of interest to him. All of these topics are developed in these books.

Mathematics in general is not of interest to poor readers. Ordinarily they dislike mathematics because they have experienced so many failures and frustrations in this area. Once they learn to read problems well enough to understand them, however, a lot of the trouble is over. In the BE A BETTER READER series, students are taught how to read problems. Interest is added to the content of the problems by tying them in with the subject of the narrative, the science, and the social studies selections in each unit.

Motivating Techniques Should Be Used. In addition to the interest inherent in the subject matter of the selections themselves, several motivating techniques should be used in teaching remedial cases. Each selection in this series is introduced with a motivating paragraph which sets up a purpose for reading the story or article. Each selection within a unit contains leads to the next selection; thus motives grow naturally out of one selection and lead into another. Students keep records of their own growth in comprehension and in adjusting speed to different types of material; this adds to motivation. Students also are continuously shown the practical value of what they are achieving in reading skills through suggestions for carrying these same skills over to their regular subjects. When they do this and find that their study in other subject fields is easier and more productive, they have a strong motive for continuing to learn more worthwhile reading techniques. All of these interest features cause these books to be especially suited for use in teaching remedial reading.

Basic Skill Development Is of Paramount Significance. While easy material, interest, and motivation are desirable expedients in teaching remedial reading, simply having a remedial case read interesting, easy material will not equip a high school student with the basic skills that he needs in studying science, social studies, mathematics, literature, and other subjects. Basic skills must be built directly and surely.

The basic skills developed in this program are those which have been found to be lacking by observation of several hundred high school students each year. These students are hampered in their study because of reading deficiencies and seek special help in a reading clinic. They may need the help of a psychologist or psychiatrist. They may need medical care or the attention of an eye or ear specialist. They may need the help of a social worker or a speech therapist. But when it comes to reading, they need to be taught the basic skills. Once these severely retarded readers are given basic instruction and practice in the fundamental skills at their respective reading levels, their progress is rapid. They soon are able to return to their regular classes in their own schools.

The basic skills, which have proved themselves to be so unusually effective in working with remedial cases under the author's supervision, are the skills which are developed in the BE A BETTER READER series.

The interest, the ease of vocabulary, the number of books of different levels of difficulty, and, perhaps most important of all, the truly basic skill development program: these features combine to cause the books in this series to be especially effective in teaching students who are below their normal grade level in reading.

Part II

GENERAL PROCEDURES

STANDARD PROCEDURE

The teacher needs to develop, amplify, and supervise each lesson in the BE A BETTER READER books to get the best results. Possibly some good and dependable readers can use the books independently with profit. Ordinarily, however, the teacher needs to work with the students as they undertake and progress through each lesson. The results will be greatly minimized if the lessons are simply assigned as unsupervised study activities or homework. Superior results are obtained when the teacher personally presents each lesson with clarity and enthusiasm; when he or she supervises the students while they are working through the entire lesson; when he or she has the students carefully check their answers; and when he or she guides discussion concerning the answers.

There is a standard or basic procedure which many successful teachers have found productive of the results they desire to obtain, and which is in keeping with the suggestions above. This procedure, however, is subject to many variations which may be advisable when adjusting to the needs of different groups and different individuals.

The basic procedure will be presented first.

Introducing a New Unit

When you are about to introduce a new unit, have the students read the unit title and look through the titles of the selections within the unit, so that they will have an idea of the subject matter of the unit as a whole. Then have them leaf through the selections again for the purpose of picking out the reading skill or skills that each kind of material will develop. You will find it helpful to refer to the "purposes" sections that follow the selection titles in the Teacher's Guide when you guide student discussion. Make sure that the students understand that they should concentrate on the reading skill or skills developed by each selection, rather than upon subject matter. Make sure, too, that the students see the desirability of improving each reading skill even though they may already have some proficiency in it. Students who already know how to preview, for instance, should be encouraged to apply their knowledge to the problems of increasing their speed and accuracy while previewing.

Teaching a New Selection

1. Have the students read the introductory remarks. Discuss them and supplement them with appropriate remarks of your own.

2. Have them read the directions carefully. Check to see if they really understand what they are to do by asking two or three students to tell you exactly how they are going to carry forward the lesson.

3. If there are word helps at the bottom of the page, have the words pronounced orally, and their meanings given.

4. If the selection is to be timed, make sure that everyone waits to start reading until you give the signal. It will be easier for you to keep time if you give the signal when the second hand is either on 12 or 6.

5. Walk about observing the students as they work (before beginning to flash time cards) to make sure that all students are applying the particular skill or skills upon which they are supposed to be having practice. For example: if they are supposed to be previewing headings only, catch any students who are reading through all of the text in the same old way, and help them to use the technique being concentrated upon.

If a student asks for help on a new word tell it to him quickly, then jot it down for word recognition development later.

6. When some of the students have nearly finished with their reading, at the expiration of each five seconds flash a card with a figure on it representing the total number of seconds that have elapsed since the students began reading. As soon as a student finishes he looks up at the card the teacher is holding and writes down the number on the card as the number of seconds it took him to read the selection. For example, if the number on the card is 125 when Tom finishes, he makes a note of 125, which indicates that it took him 125 seconds or three minutes and five seconds to read the article. These figures are then written in the appropriate spaces at the end of the selection.

Teachers find it a great convenience to prepare a stack of cards for timing purposes at the very beginning of a course using one of the BE A BETTER READER books. Usually 60 is used as a beginning number; then five is added for the number on each additional card—65, 70, 75, 80, 85, 90, 95, 100, and so on. The cards are held up at intervals of five seconds until all the students have finished reading.

7. Have all students work out their reading rate with the use of the formula in the book. Ask some to volunteer information as to how much gain they are making in rate as compared with their preceding records.

8. Have them do the activity or activities that follow the selection. Supervise this work, making sure that the students are doing what they are supposed to do.

9. When they have finished, give the answers to the activities and let each student check his own work. Have different ones read a sentence or paragraph orally to verify their answers. Enter into any worthwhile discussion that develops.

Finally, have each one record his "Comprehension score" and "WPM" at which he reads, so that all students will have this record for comparative purposes in the future.

10. If some of the words in the selection have given trouble, devote a little time to the development of independent methods of attacking these particular words.

11. At the end of a lesson always urge students to make use of the skill or skills they have been practicing whenever they have a chance, in both their school and outside reading.

VARIATIONS OF THE STANDARD PROCEDURE

The teacher should feel free to vary the basic procedure outlined above in any way that he or she finds helpful in working with a particular group or individual. Several adjustments which some teachers have made are suggested below.

ADJUSTMENTS FOR VERY POOR READERS

Teaching a New Selection

Development of Directions and Procedures. In case the students are severely handicapped in their reading, the teacher sometimes finds it helpful to write the directions for working with a selection on the chalkboard. They are explained and read from the chalkboard before students attempt to read and carry them out from the printed page in the book.

In such cases some teachers write the first paragraph of the selection, itself, on the chalkboard and demonstrate the procedure with the text on the chalkboard.

Development of New Words Before Reading. If the group is having a great deal of difficulty in recognizing new words, it may be necessary to clear word recognition difficulties out of the way by developing several words (in addition to those at the bottoms of the pages) before reading is begun. This word recognition development should be done on the chalkboard. Meanings, as well as pronunciation, should be given attention.

Reading Orally. If students require an unusual amount of help in recognizing words, it may be advisable to have them read the selection orally and without timing, the first time over. Try to help them to work out the pronunciations as they go along and note the troublesome words to use in a word study lesson after they have finished reading the selection orally.

After word recognition difficulties are out of the way, the students may read the selection again under timed conditions, and then do the activities. In extreme cases, timed reading may be dispensed with entirely until such time as students have developed satisfactory skill in attacking new words.

Do not resort to oral reading first, except in cases of students who are severely handicapped in word recognition. Ordinarily, silent reading should be done during the first reading in order to develop speed.

Carrying Out the Activities. Seriously handicapped readers will need to be supervised very closely while working with the activities. Far better to catch a mistake before it is made or while it is being made than to talk about it afterward.

Recording Scores. Even though some teachers find it advisable to dispense with the timing activities with severely retarded students for a while, they continue to have each individual record his "Comprehension score" for each lesson.

Developing Independent Methods of Attack. Students often profit greatly by having a ten- or fifteen-minute period at the end of each lesson devoted to the development of and practice on word recognition techniques. This work should be functional, however, making use of words students have actually met and had trouble with in the immediate lesson.

ADJUSTMENTS FOR VERY GOOD READERS

In cases in which teachers use the BE A BETTER READER books with students who are already very good readers but who still desire to make some reading improvement, many of the teacher-guided activities suggested in the basic procedure described above may be omitted. Such students can usually be depended upon to read, carry out the printed directions, time themselves, do the activities "on their own," and record their own scores. Teachers have found that such students profit by teacher-guided discussion, but otherwise they can make excellent gains under self-directed practice.

ADJUSTMENTS FOR OTHER GRADES

The BE A BETTER READER series has been carefully planned for flexibility, so that each book may be used successfully with students at various grade levels. The control exercised over vocabulary, concept, and sentence and paragraph structure has already been mentioned. A similar control has been maintained over the subject matter of the science, social studies, and mathematics selections. While the topics are generally related to subject matter that most students will cover during the school year for which a particular BE A BETTER READER book has been planned, each selection is self-contained; the students are not expected to have a prior knowledge of the technical aspects of a subject. Those few mathematical processes with which some students may be unfamiliar are explained in the lesson-by-lesson procedures to permit the teacher to give any help that may be necessary. You will find, too, that none of the texts states a grade level for which it has been intended. Ninth-graders with reading problems can be started on Book I without being continually reminded that they are using a lower-level text.

As a result of these provisions, many teachers report that they are using BE A BETTER READER books very successfully with lower or higher grades than those with which the books are ordinarily used.

If a teacher wishes to use one of these books for basic skill development with children of normal reading achievement in a lower grade, he or she may well follow the standard procedure that has been described. The few supplementary aids that a particular selection may require can be found in Part III of this Guide, in the lesson-by-lesson procedures. The teacher should plan to devote full time to working with the pupils as they pursue the various activities in each lesson.

If the BE A BETTER READER book is used with children of normal reading ability as a supplement to a basic reader and its accompanying workbook, then perhaps after developing steps 1, 2, and 3 under "Standard Procedure," the teacher may find it possible to leave the students to read silently, time themselves (in case timing is required), and carry out the activities independently. In this case the teacher should again join the group for checking, scoring, and discussion. It would be advisable when assigning a lesson from BE A BETTER READER for independent work such as has been described, to check the Teacher's Guide in advance of giving the assignment to make sure that the students receive any special instructions or explanations that ordinarily would be presented by the teacher either before the students read the printed instructions in the text or before they begin the activities.

If one of the BE A BETTER READER books is used with a group having reading difficulties, the procedures suggested under "Adjustments for Very Poor Readers" should be used.

REPORT OF A READING LESSON

The text of the lesson reported here is "The Little Rebel", the first story in Unit Seven of BE A BETTER READER, Book I.

Building Background and Stimulating Interest

Teacher: Look at the picture that accompanies our new story on page 88. Tell me as many things as you can discover just from "reading" the picture. In what historical period do you think the story takes place? Who are the characters? What has happened? Does it look as if this might be a revengeful act?

Jack: I think it's in the Colonial period. People who lived in the Colonial period wore that style of coat, tie, and vest.

Stanley: We can be sure that there are three people in this story - two young men, and a man.

Teacher: What has happened that might make an incident in a story?

John: The office has been damaged. The man looks very disturbed. Probably he will take action against the vandals.

Teacher: Well, we'll find out. Read the italicized paragraph that tells about the picture. Read this orally, Daniel.

Daniel (reads): "The story below is based on a true happening. William Lyon Mackenzie was nicknamed the "little rebel" in his life. David is an imaginary character, but this incident actually happened."

Developing Vocabulary

Teacher: In order that your reading may proceed without interruption, read the sentences on page 87 again. They use some of the words that will be in the story. If necessary we can check the pronunciations and meanings of these words from the information given on the same page. Robert, read the first sentence orally.

Robert (reads): "The traveler was carrying a portmanteau in his hand."

(Other students read orally, as called upon, the sentences for emerge, sue, ruffian, apprentice, abuse, editorial, type.)

Reading the Story Silently

Teacher: Now we will read the story. We'll find out how Mr. Mackenzie fought for justice for the people. You may read the story silently and time yourself. I'll hold up these cards as usual. When you have finished, look up. The card I am holding will tell you how many seconds it took you to read the story. Compute your speed as soon as you finish and see how many seconds it took you to read the story. Ready? Begin!

(students read silently. After the first minute has passed, the teacher begins holding up cards at the end of each 5-second interval. The cards are numbered progressively by 5's, starting with 60: 60, 65, 70, 75, and so on. Robert looks up while the teacher is holding the card with 120 on it. He has read the selection of 700 words in 2 minutes, or at the rate of 350 words per minute. Other students look up at various times, concluding with Stanley at 260 seconds.)

Teacher: Now that you're all finished, be sure to compute your speed. To determine how many words you read per second, remember to divide the numbers of words you read, 700, by the number of seconds you took to read the story. Then multiply by 60 (60 seconds per minute) to find out how many words you read per minute. Record your speed in your book in the space labeled "WPM."

Writing Answers to Comprehension and Discussion Questions

Teacher: Now, let's see what you got out of what you read. Read the comprehension questions one by one and write your answer to each one without referring to the story. These must be answered accurately in terms of information given in the story. When you have finished writing answers to the comprehension questions, get a separate piece of paper and write answers to the discussion questions. Say whatever you personally wish to say in answer to these questions. Express your own ideas.

Working with Another Group

(Teacher leaves this group to work by themselves for 20 minutes while they are writing their answers. She uses this time to guide another group in the same classroom through the procedures described above. This group, however, is more advanced and is about to read a story in the latter part of Book II of the BE A BETTER READER series. After finishing the background work and the timed reading, she lets the second group start making the written responses required for the selection.)

Checking Comprehension and Speed

(Teacher returns to the first group to check their written work on "The Little Rebel." She holds in her hand for ready reference the Teacher's Guide for Book I. It is opened to the page on which answers are given to the comprehension questions and possible answers are given for the discussion questions which accompany "The Little Rebel.")

Teacher: Now let's see how well you comprehended the story. Check your papers as the answers are given. What answer did you write for the first comprehension question, John?

John: Lake Ontario.

Teacher: Find the paragraph of the story in which this answer is given. Read it to us orally to prove whether or not you are right.

John (reads): "It was June 8, 1826. David Patterson was on an errand for his mother. The quiet of a summer evening was settling over the little town of York, the capital of Upper Canada, and a pleasant breeze was blowing from Lake Ontario."

Teacher: Is he right, class?

(Students continue to answer the questions and read orally the paragraph that proves the answer to each one. Teacher jots down any words that give difficulty.)

Teacher: Allow a score of 10 for each correct answer. Compute your comprehension score and write it in the appropriate place in your book. How many made 100 in comprehension? 90? I won't ask those who made lower than 90 to tell us about it. The important thing is for you, yourself, to know what score you made and to try to do better next time. Now let's see how you are doing in speed. Look back at the rate score you recorded for the last story, on pages 74 and 75.

(Students turn back to pages 74-75 and compare their WPM rate for "Weather-Wise" with their rate for "The Little Rebel.")

Teacher: How many read this story at a higher rate? Did you also do as well or better on your comprehension score?

(Several improved both in speed and comprehension. Others varied).

Robert: I didn't. I read this story at a rate of 350 words per minute, but I only made 70 in comprehension. I made 100 in comprehension when I read the last story more slowly.

Teacher: Then you probably tried to read too fast. Read as fast as you can get the thought and no faster.

(Discussion continues for a minute or two in regard to individual gains or losses.)

Eliciting Individual Responses to Discussion Questions

Teacher: Now let's chat informally for two or three minutes about the discussion questions. The first one is, "Do you like Mr. Mackenzie? Why?"

Daniel: Yes, because he tried to help the people.

Teacher: Right. This is one reason for liking him. Who likes him for another reason?

(Students answer variously. Some like Mr. Mackenzie because he showed determination; others because he had a peppery nature.)

Teacher: How about the second question, "Why didn't David stay to watch the raid?"

(students answer variously. He was afraid of the violence and destruction; he wanted to get help to stop the raid, and so on.)

Special Work on Word Recognition

Teacher: We have worked on comprehension and speed and have enjoyed talking about the discussion questions. Now, as usual, I am going to help you with some of the words I've jotted down in my notebook. These are words

which some of you missed in your oral reading yesterday and today. I'll write sentences on the chalkboard and underline some of the words you missed.

(Teacher writes on the chalkboard.)

David recognized his friends.

Some of the characters in the story are imaginary.

Mackenzie's criticisms angered some members of the ruling class.

Mackenzie advocated many reforms.

Teacher: You had some difficulty with the sounds of g and c in the underlined words. I want to review with you some principles concerning the two sounds of g and the two sounds of c so you won't have that trouble with other words containing g or c. Pronounce these familiar words as I write them:

cage	center
cold	city
curve	cylinder

Do the c's in the first list have the hard sound or the soft sound? What is the vowel that follows the c in the first word? In the second word? The third word?

Similar questions are asked about the words in the second column. Students generalize the principle "Usually c is hard when followed by a, o, or u; usually it is soft when followed by e, i, or y."

Teacher: Can you apply the principle in pronouncing each of the words containing c in the sentences on the board?

(Students make applications.)

Teacher: Let's make up a principle governing the sounds of g.

Teacher continues in a similar way, first having the students read:

giant	gate
gentle	gold
gypsy	gun

Students read the words, generalize the principle, and apply it to the words containing g in the sentences.

Teacher: Our time is up. You have been discussing the characters in this story. When next you read a selection think about the characters, their actions, and their words. Then you will understand the people better and your enjoyment of stories will be increased.

Part III

PROCEDURES AND ANSWER KEYS

How to Use Part III

The general procedures given in Part II of this Guide are here amplified with specific suggestions and aids for use with the individual selections and practice pages. Where appropriate, material has also been provided for chalk-board or discussion activities to supplement activities in the text. For example, additional problems, and their answers, are given for the selection "How High, How Far, How Fast?" (text pages 8-9), and an additional activity is suggested for "Classification of Vertebrates" (text pages 20-21).

Multiple answers are provided for discussion questions which students may variously interpret. Mathematical processes which the students may have forgotten are carefully explained so that the teacher can provide whatever assistance is needed.

It is hoped that the teacher will make full use of the helps offered in this section. They will contribute much to the successful use of BE A BETTER READER, BOOK I.

Presenting Book I

Have the students read the title of the book. Explain that this book is planned to help them become better readers in all of the reading that they do.

Ask them to turn to page 1, where they will find the message "To the Student." Have them read this message orally, a paragraph at a time. After they have read each paragraph, ask pertinent questions and conduct discussion about their personal knowledge of reading skills and their own reading habits.

Ask each one to try to decide which of the skills he thinks he, personally, might most need to improve; and in which of the subject areas he has especial needs for learning to use better techniques in reading the content.

Invite the students to tell what they think this book might contain. Let them leaf rapidly through the pages to get a general idea of its contents.

Procedures for Teaching

UNIT ONE

SPACE TRAVEL

The topic for this unit was chosen because of its high interest to students and the frequency with which it is discussed in present-day social studies and science books, and because of its adaptability in offering experience in skills that are needed in reading related material in several different subject fields.

AN IMAGINARY TRIP TO THE MOON

(Pages 2-3)

Purposes

(1) To provide a story of strong interest to high school students; (2) to develop appreciation by giving the student opportunities to draw inferences in regard to deeper meanings, to relive the experience of a character, to sense emotion of a character, to decide upon the emotion he, the reader, would have felt had he been the character, to identify the qualities of a character; (3) to check literal comprehension; (4) to offer leads to social studies, science, and mathematics selections that follow.

Procedure

Let the students discuss the picture. Ask them to read the unit title and the story title. Invite comments. Have them read the paragraph to the right of the picture. Ask the students if they can imagine themselves in the place of a boy, Jimmy, who makes the trip to the moon in the story.

Have them read the word helps and pronounce the words orally. Give assistance with any words that cause trouble and explain the pronunciation in terms of the diacritical markings. If you have a very slow class, write the words on the chalkboard with their respective respellings and have different students pronounce them and give their meanings.

If your students are average or above-average readers, let them read the entire story silently for the purpose of finding out what Jimmy's experience was. Then have them go on directly to the comprehension questions, to which they should write the answers independently.

If the group is composed of students who are seriously retarded in reading it may be advisable for them to read one paragraph at a time orally.

Motivate this oral reading of each paragraph with a question or direction, such as, "What did Jimmy say first of all in the story?" or "Where was Jimmy?"

If the students are so deficient in reading that they have trouble in pronouncing some of the words in the story, help them to work out the pronunciations at the time the difficulty arises, if you can do so quickly without interfering with the flow of thought and the enjoyment of the story. Otherwise, just tell them the word, jot it down on a pad, and develop its pronunciation with them on the chalkboard after the story is read.

In case students are at such a low reading level that you find it advisable to have them read the story orally the first time, after your development of words that gave them trouble have them reread the story silently. If rereading is done, be sure to give the students some purpose for rereading, such as finding additional parts of the story that they would like to have pictured. This time, urge them to read as fast as they can. When they have finished this silent reading of the entire story, let them tell which additional parts they would like to have had pictured.

Average or good readers may answer the comprehension questions independently.

If the students are serious remedial cases, you may find it necessary to help them in reading the questions and perhaps in writing or spelling the answers. But do not help them with the answers, themselves. These questions are to check their literal understanding of what they have read.

When students have finished writing their answers, read the answers to them, and let each one check to see how many he had correct. The student's wording of the answers doesn't have to be exactly like the wording given. So long as a student's answer shows that he got the meaning accurately, count it as correct.

Have each student multiply the number of answers he had correct by 10 to get his comprehension score.

If time permits, have the students who missed questions find the parts of the story where the questions are answered. Average students can be asked to underline these parts. Seriously retarded students may be asked to read the parts orally.

The discussion questions are provided for the purpose of aiding students to "read between the lines," to seek deeper interpretations, and to develop deeper appreciations. They are not to be scored.

These questions should be discussed orally by the group. Encourage different individuals to give their own personal answers. In some cases there is no one correct answer. Question 5 is an example of a question to which several different answers might be given. Students might indicate the way in which they think the Captain might have felt when he found that a boy had come with him in

such varied terms as surprised, amazed, amused, angry, unhappy, and so on. Let each student express in his own way the emotion that he thinks the Captain experienced. Discussion may change the student's mind later, or may not.

The answers that follow will probably be the ones most commonly given. Answers to questions 6 and 7 will have to be the same for everyone. Accept various responses for the others.

Answers

Comprehension Questions

1. A separate part of the rocket, fastened to Nebula
2. In his space suit
3. Food tablets
4. Black sky, stardust, lights of comets, planets
5. Magnetic boots
6. Lack of gravity
7. X-21
8. Jimmy
9. Between two rocks
10. By the smile on the Captain's face

Discussion Questions

1. Because the message wasn't delivered to Captain George, or because his father was responsible for a stowaway
2. To the public, or to the space station
3. Yes, it would be exciting, or it would be a thrilling adventure; or no, it would be too dangerous.
4. Frightened, or scared
5. Surprised, amused, angry
6. Brave, thoughtful of his parents, usually helpful to his father
7. Kind, brave, good-natured

FROM BALLOONS TO ROCKETS

(Pages 4-5)

Purposes

To provide a selection that offers opportunity to give practice in using the following skills needed in reading social studies material: (1) previewing for main topics; (2) making use of boldface heading; (3) formulating questions; (4) reading to find the answers to questions; (5) noting sequence of historical events; (6) recalling historical events in sequence; (7) recalling detailed historical facts.

Procedure

Let students discuss the picture. Have them read the introductory paragraph and discuss differences between the contents of a story and a social studies article.

Read the directions all the way through with the students. Check their understanding of the directions by having some of them tell you exactly what they are going to do.

Have students read the meanings and pronounce the new words in the word helps. Supplement this development with chalkboard work if the group is made up of very poor readers.

Have students preview with the use of boldface headings. Reading such headings throughout a selection before reading the text under each heading probably will be a new procedure for many students. Supervise them carefully to make sure that they read only headings the first time over, and that they do Activity 1 before reading the text under the boldface headings.

After Activity 1 has been completed, discuss the possibility of making up questions that the students would like to have answered about each heading. Sample questions have been given for the first heading. Ask different students to give you questions about the second boldface heading that they would like to have answered. Continue in this way with other headings if it seems advisable with the group with which you are working.

Finally, have them read the entire selection to answer the questions they raised about the headings. Under ordinary conditions, this reading should be done silently.

If, however, you are working with students at a very low level of reading ability, you may find it advisable to follow a procedure similar to that suggested for helping such students read pages 2 and 3: (a) oral reading of each paragraph to find answers to questions raised before the paragraph is read; (b) development of and practice on words which you jotted down as giving trouble during the reading; (c) rereading silently for a different purpose, perhaps to see how long it takes to read the selection silently.

In either case, Activity 2 should be done following the reading, to check the student's grasp of facts stated in the article. Each question is worth 12 1/2 points.

Answers

Activity 1

2. The First Man Goes Up in a Balloon
6. Space Rockets Are Here
4. Man Learns How to Steer Balloons
1. The Invention of Balloons
5. Airplanes Replace Balloons
3. Balloons Begin to Use Hydrogen

Activity 2

- | | |
|---------------------|--------------------|
| 1. the Montgolfiers | 5. Wright brothers |
| 2. 1783 | 6. Airplane |
| 3. de Rosier | 7. 1926 |
| 4. hot air | 8. Goddard |

Studying in Your Social Studies Books

Have the students read the last three paragraphs on the page. Invite discussion. Place your personal recommendation back of the book's instructions to try out the technique which they have been learning when studying in their social studies texts.

DANGERS OF SPACE TRAVEL (Pages 6-7)

Purposes

To provide a selection which offers opportunity: (1) to learn how to identify the problem-solving pattern of science material; (2) to develop careful reading skills and habits in studying such material; (3) to give practice in previewing to identify problems; (4) to make use of boldface heading when placed in a different position than in the preceding selection.

Procedure

Let students discuss the picture, and read and discuss the introductory paragraphs.

Read the instructions through with them and make sure that they understand what to do. Emphasize the need of finding out first of all what the problems are and then reading to: (a) find out more information about the problem and (b) how the problem was met.

Proceed with the reading as previously suggested. Finally, have students do Activity 1.

Answers

Activity 1

Problems

1. Lack of oxygen
2. Changes in temperature
3. Friction
4. Weightlessness
5. Meteors

Possible Solutions (Any One)

1. Use of oxygen masks, pressurized cabins
2. Heating system, air conditioning
3. Special metals, special engines
4. Faster rockets, new shapes for rockets
5. Outer shell for rocket

Studying in Science Books

Make sure students read the section on "Studying in Science Books." Strongly recommend that they try the procedure that they have just used when studying a problem-solving selection in their science texts.

HOW HIGH, HOW FAR, HOW FAST? (Pages 8-9)

Purposes

The books in this series are not concerned with computations. Their function is to teach the reading of mathematics. The reading purposes for working with pages 8-9 are: (1) to awaken in students an awareness of the fact that they should read mathematics differently from other kinds of material; (2) to acquaint them with overall procedures to use in reading mathematics; (3) to give them specific practice on the first two skills in the effective reading of problems, (a) visualizing the setting and (b) concentrating upon the statement or question that asks or tells the student what to find.

Procedure

Have students read and discuss the introductory paragraph as usual. Then have them read the entire page of instructions. Discuss each paragraph and each numbered instruction with them as they go along.

Work with the students in applying the first two steps to the first problem and in checking the correct answer under A and B. If necessary, work with them in applying the steps and checking the correct answers in additional problems.

When you are sure that the procedure is established, let them continue with the work independently.

While practice in computation is not the aim of the mathematics pages in this book, students may work the problem if time permits and if you wish to have them do so.

If you are working with remedial students, emphasize the fact that they should take time to read their problems very carefully. Such students need to think about what the words tell them. They must be sure that they understand the meaning of each sentence as it bears upon the problem as a whole. Usually they should spend much more time in reading and thinking about a problem than they spend in actually working it on paper. No amount of computation will be of value unless the students are sure of what to do with the numbers.

Developmental students may use the mathematics exercises in this book to increase speed as well as accuracy. Let them see how rapidly they can answer the questions and compute the problems. You may let them keep their times, if you like, to provide a convenient means of comparison. The number of errors each student makes will provide a check on whether he needs to slow down a little in the interests of accuracy, or whether he may speed up even more.

Answers

Answers to Problems

1. 7,085 tons
2. 13.71 miles
3. 3,285 pounds
4. 69 seconds, or one minute and nine seconds
5. 12.1 miles

Answers to Questions

1. A. c; B. c
2. A. b; B. b
3. A. c; B. c
4. A. c; B. b
5. A. b; B. c

Additional Problems

Here are some additional problems, if you care to use them.

1. An airplane by the name of Lady Luck made a flight around the earth in 94 hours. It traveled 23,452 miles on this flight. How many miles per hour did the Lady Luck travel ?
 - A. What picture did you see ?
 - a. an airplane traveling from New York to Los Angeles
 - b. a rocket taking off from the earth
 - c. an airplane flying completely around the earth
 - B. What are you asked to find ?
 - a. the number of miles Lady Luck traveled on her flight around the world
 - b. the number of miles per hour she traveled
 - c. the number of hours it took her to travel around the earth

2. The Montgolfiers' balloon was invented in 1783. Goddard's first liquid-fuel rocket was invented in 1926. How many years were there between these two events ?
 - A. What two pictures did you see ?
 - a. Wright's first airplane and a rocket
 - b. a jet bomber and airplane such as we have today
 - c. The Montgolfiers' balloon and a small rocket
 - B. What are you asked to find ?
 - a. how many years it has been since the Montgolfiers invented the balloon
 - b. how many years it has been since Goddard invented the rocket
 - c. how many years there were between the invention of the balloon and the rocket

3. Things weigh about six times as much on earth as they do on the moon. Captain George's X-21 weighed 27,423 pounds on earth. How much would the X-21 weigh on the moon ?
 - A. What two pictures did you see ?
 - a. Captain George on earth and Captain George on the moon
 - b. a man weighing the X-21, and a man weighing the Nebula
 - c. the X-21 on the earth and the X-21 on the moon
 - B. What are you asked to find ?
 - a. how much more the rocket would weigh on the moon
 - b. how much less the rocket would weigh on the moon
 - c. how much the rocket would weigh on the moon

Answers

Answers to Questions

1. A. c; B. b
2. A. c; B. c
3. A. c; B. c

Answers to Problems

1. 249.49 miles per hour
2. 143 years
3. 4,570.5 pounds

Studying in Your Mathematics Book

Have the students read the paragraph titled "Studying in Your Mathematics Book." Discuss this paragraph with them and urge them to try the suggestions

when they next work with problems in their mathematics textbook.

HOW GOOD ARE YOU AT PRONOUNCING NEW WORDS? (Pages 10-11)

Purposes

(1) To awaken in students an awareness of the need for phonics in working out the pronunciation of new words they will meet in their reading in different subjects during the year ahead; (2) to let them know that you and the author recognize that phonics is not new to them; (3) to keep alive what they have previously learned about vowels and consonants; (4) to give practice leading to the instant recognition of vowels and consonants.

Procedure

These are the first of several pages in the early part of this book devoted to phonics. Many students have difficulty in pronouncing the large number of new words they meet in their high school reading. Word recognition is the most basic of the reading skills. If students can't pronounce the words, they're lost insofar as understanding reading content is concerned. Phonics is the chief aid to word recognition. For these reasons phonics is given rather heavy emphasis in the first two units of this book. The important skill of independence in word recognition should be established as early as possible in a skill-building program, for this skill is the foundation upon which all other skills are built.

Phonics is generally taught in the primary grades and usually given some attention in the middle grades. But, even so, the majority of high school students seem to be lacking in phonic knowledge and make very little use of phonics as an aid in pronouncing new and difficult words. Like many of the other skills developed in the elementary school, phonics needs to be reviewed and kept alive throughout the high school years.

The reviews in this book are more difficult than the usual phonics work in the grades and are presented in a manner suitable to the dignity of high school students. The teacher should keep this in mind in presenting the lessons and should take pains to let the students know that he or she realizes that they have had similar work in the lower grades. Continuously stress the reasons that it is helpful to them to review and make use of phonics.

Have the students read the instructions and discuss each paragraph as it is read.

Many high school students are lacking in ready recognition of vowels and consonants within words. Such recognition is basic to work with syllabication, which will be emphasized later in this book. Ask students to test themselves to see if they are as good at recognizing vowels and consonants as they think they are.

Instruct them to check their answers carefully.

Answers

Finding Words That Begin with Vowels

- | | | | |
|-------------|-----------|-------------|------------|
| 1. ivory | 2. office | 3. able | 4. olive |
| 5. umbrella | 6. import | 7. elephant | 8. utensil |

Finding Words That End with Vowels

- | | | | |
|-----------|-----------|-------------|-----------|
| 1. potato | 2. banana | 3. voyage | 4. scale |
| 5. alkali | 6. sulfa | 7. bacteria | 8. dynamo |

Underlining Consonants in the Alphabet

a b c d e f g h i j k l m n o p q r s t u v w x y z

Underlining Consonants in Words

- | | | | | |
|---|---|---|--|--|
| a. <u>s</u> p <u>i</u> n <u>a</u> l | b. <u>c</u> a <u>p</u> t <u>u</u> r <u>e</u> | c. <u>g</u> o <u>r</u> i <u>l</u> l <u>a</u> | d. <u>s</u> e <u>r</u> v <u>i</u> c <u>e</u> | e. <u>s</u> y <u>m</u> b <u>o</u> l |
| f. <u>b</u> o <u>l</u> d <u>f</u> a <u>c</u> e | g. <u>p</u> a <u>r</u> a <u>g</u> r <u>a</u> p <u>h</u> | h. <u>s</u> c <u>i</u> e <u>n</u> t <u>i</u> s <u>t</u> | i. <u>s</u> y <u>l</u> l <u>a</u> b <u>l</u> e | j. <u>l</u> e <u>s</u> s <u>o</u> n |
| k. <u>e</u> n <u>j</u> o <u>y</u> m <u>e</u> n <u>t</u> | l. <u>s</u> k <u>i</u> l <u>l</u> s | m. <u>s</u> e <u>l</u> e <u>c</u> t <u>i</u> o <u>n</u> | n. <u>s</u> i <u>m</u> i <u>l</u> a <u>r</u> | o. <u>i</u> n <u>f</u> o <u>r</u> m <u>a</u> t <u>i</u> o <u>n</u> |

Finding Initial Consonants

- | | | | |
|------------|--------------|------------|-----------|
| 1. meaning | 2. different | 3. turtle | 4. lonely |
| 5. helmet | 6. rocket | 7. balloon | 8. happen |

Finding Final Consonants

- | | | | |
|-----------|-----------|-------------|-------------|
| 1. trip | 2. tunnel | 3. tablet | 4. sheep |
| 5. lumber | 6. travel | 7. hydrogen | 8. powerful |

Finding a Consonant in the Middle of a Word

- | | | | |
|------------|----------|----------|-----------|
| 1. forest | 2. total | 3. music | 4. trader |
| 5. produce | 6. human | 7. metal | 8. sailor |

Follow-Up Work

If some of the students were unable to identify and mark some of the vowels or consonants correctly, ask them to engage in extra practice as suggested at the bottom of the page, or give them practice that you, yourself, devise.

DO YOU KNOW THE SOUNDS OF THE CONSONANTS?

(Page 12)

Purposes

(1) To test the ability of students to recognize the sounds of the important consonants; (2) to provide experience in making use of consonant sounds in working out the pronunciation of words.

Procedure

Have the students read the first two paragraphs on the page. Ask two or three different ones to tell exactly what they are going to do. If some have difficulty in understanding the directions, draw a box on the chalkboard. Write g f b beneath the box. Demonstrate how you would carry out the instructions in finding and marking the consonant with which the word box begins.

Name the pictures for them. Then have them name the pictures. This will prevent the error of calling a picture by a name that was not intended.

The names of the pictures are:

- | | | | |
|-------------|------------------|-------------|------------|
| 1. turtle | 2. feather | 3. jug | 4. moon |
| 5. basket | 6. leopard | 7. window | 8. saddle |
| 9. kangaroo | 10. nurse | 11. radio | 12. zebra |
| 13. deer | 14. hippopotamus | 15. pitcher | 16. violin |

When all students understand the technique and know the names of the pictures, have them circle the correct consonant under each picture.

Answers

Circling Consonant Sounds

- | | | | | | | | |
|------|-------|-------|-------|-------|-------|-------|-------|
| 1. t | 2. f | 3. j | 4. m | 5. b | 6. l | 7. w | 8. s |
| 9. k | 10. n | 11. r | 12. z | 13. d | 14. h | 15. p | 16. v |

Making Use of the Consonants

The section under "Making Use of the Consonants" should be done under teacher guidance.

Have the students read the instructions. Then ask, "How many know what the first word in the list is and what it means?" Continue with each of the words

in the same way. Don't let students say a word until you ask someone to do so. Ask for a show of hands in each case. If some students do not raise their hands, help them to pronounce the word using the four suggestions given in the instructions above the list.

Follow-Up Work

The students who missed some of the consonant sounds should be given practice as suggested at the bottom of page 11 of the students' book.

THE CONSONANTS g AND c HAVE TWO SOUNDS (Pages 13-14)

Purposes

(1) To review the hard and soft sounds of g and c; (2) to give students guidance in deciding when one of these consonants will have a certain sound; (3) to give practice in applying what they have learned in the pronunciation of words.

Procedure

Have the students read the title of the page.

Name the pictures for them: 1. goat, 2. giraffe, 3. camel, 4. celery.

Let the students read the instructions and carry them out independently if they are able to do so. If not, have the instructions in each set read orally, and explain them before students work with the words accompanying each separate set of instructions.

Answers

Picture Test

1. hard g 2. soft g 3. hard c 4. soft c

Different Sounds of g and c

A.	Vowel after c ?	Hard or soft ?	C.	Vowel after g ?	Hard or soft ?
1. cage	a	hard	1. gate	a	hard
2. cabin	a	hard	2. gas	a	hard
3. cold	o	hard	3. gold	o	hard
4. cure	u	hard	4. gum	u	hard
5. curve	u	hard	5. gush	u	hard
6. curl	u	hard	6. gulf	u	hard

Rule: Usually c has the hard sound when followed by the vowels a, o, and u.

Rule: Usually g has the hard sound when followed by the vowels a, o, and u.

B.	Vowel after c ?	Hard or soft ?	D.	Vowel after g ?	Hard or soft ?
1. center	e	soft	1. gentle	e	soft
2. ceiling	e	soft	2. germ	e	soft
3. cinder	i	soft	3. giant	i	soft
4. cider	i	soft	4. gypsy	y	soft
5. cypher	y	soft	5. gymnasium	y	soft
6. cylinder	y	soft	6. gypsum	y	soft

Rule: Usually c has the soft sound when followed by the vowels e, i, and y.

Rule: Usually g has the soft sound when followed by the vowels e, i, and y.

Rule: Usually c and g have the hard sound when followed by the vowels a, o, and u, and the soft sound when followed by the vowels e, i, and y.

Applying What You Have Learned

A.	Hard or soft g ?		Hard or soft c ?
1. gorilla	hard	1. cute	hard
2. rage	soft	2. compare	hard
3. kangaroo	hard	3. Congo	hard
4. guide	hard	4. Cameroons	hard

DO YOU KNOW THE LONG AND SHORT VOWEL SOUNDS?

(Pages 14-15)

Purposes

(1) To review the long and short sounds of vowels; (2) to review the use and interpretation of diacritical marks for the long and short vowels.

Procedure

Ask the students to read the instructions and do the exercises on this page independently, if they are able to do so. Otherwise, work with them giving any needed help.

Have them check their resulting lists very carefully. If they place any of the words in the wrong column, give them additional practice according to the suggestion at the bottom of page 15 or ideas of your own.

Answers

Long a Words

māke

scāle

blāze

lāke

spāce

wāste

Short a Words

lănd

hăd

găs

lătch

flăg

plănt

Long e Words

dēmon

Vēnus

hē

mē

wē

shē

Short e Words

ěnd

pět

běst

sěnt

měn

chěck

Long i Words

smīle

tīme

shīne

mīles

sīde

fīle

Short i Words

trĭp

grĭn

shĭp

hĭll

Jĭm

lĭft

Long o Words

mōst

smōke

cōmb

nōse

cōld

bōld

Short o Words

rōcket

lōck

hōt

pŏblem

bŏmb

bŏx

Long u Words

ūse

cūte

duke

fūel

cūe

mūsic

Short u Words

dŭst

mŭst

cŭt

dŭck

shŭt

lŭck

Long y Words

crī

fli

tri

tīpe

ski

ri

Short y Words

sĭstem

tĭpical

cĭlinder

gĭpsum

crĭstal

mĭsterĭ

Procedures for Teaching

UNIT TWO

ANIMALS — AT HOME AND ABROAD

The subject of animals was chosen for this unit because animals are of interest to students, and because this topic is commonly treated in different subject areas in high school texts.

A GORILLA THAT LIVED LIKE A HUMAN

(Pages 16-17)

Purposes

(1) To provide a story that will interest high school students; (2) to develop appreciation by giving the student opportunities to draw inferences in regard to deeper meanings, to relive the experiences of characters in the story, and to find proof in text; (3) to check comprehension; (4) to give an initial experience in rapid reading; (5) to offer leads to the social studies, science, and mathematics selections that follow.

Procedure

Let the students discuss the picture. Ask them to read the unit title and the story title. Invite discussion. Have them read the introductory paragraphs and the word helps.

Following this preliminary work have them read the story for the purpose of finding out if the gorilla did "live like a human." Urge them not to dawdle in their reading, but to read along as fast as they can.

Follow the procedure best adapted to the ability of the group as suggested in the discussion of procedure for "An Imaginary Trip to the Moon," pages 32-34

When the students have finished reading the story, have them write the answers requested in Activity 1.

Have the students correct their work as you read the answers to them orally. A score of 10 should be allowed for each correct response in questions 1-4. Question 5, which calls for the student's opinion, should not be scored.

Discussion of the answers is desirable.

Answers

Activity 1

1. Any six of the answers below. Others in the story but not listed are acceptable.
 - a. Slept in a real bed
 - b. Jumped on the mattress
 - c. Played games with Major Penny
 - d. Turned on the light
 - e. Turned the faucet off and on
 - f. Sat at the table to eat
 - g. Took tea in the afternoon
 - h. Unlocked and opened the window
 - i. Obeyed when he was told to do something
 - j. Worried about others falling out the window
 - k. Cried when he wasn't allowed to do something he wanted to do
2. Yes
3. Shrieked with loneliness in the store; or cried when he was alone in his bedroom and was contented when Major Penny left his door open
4. Alyse wouldn't let him sit in her lap. He spread a newspaper on her lap.
5. Answers will vary. Many students may answer, "Yes. Wiser and more interesting to let him learn naturally."

JOHN GORILLA'S NATIVE HOME (Pages 18-19)

Purposes

To provide a social studies article of such a nature as to afford opportunity for practice on the following map-reading skills: (1) associating proper names with topographical features; (2) interpreting altitude symbols in reading a map; (3) interpreting temperature symbols; (4) using a mileage scale; (5) comparing temperatures in two different localities; (6) drawing a conclusion based on map information. Reading to answer questions is also given practice.

Procedure

Have the students read the instructions and the word helps. Ask if they can name some map-reading skills before they start doing the map work on the page. After a short discussion have them read the question in each boldface heading and do the work asked for beneath the heading to find the answer to the question.

The directions in this selection are very explicit, so students of average ability should be able to carry them out independently. If, however, the particular group of students with whom you are working does have trouble, give whatever help is necessary.

In case of students who are seriously retarded in reading, you may find it necessary to have each exercise read orally, further explained, and then carried out under your supervision.

After students have finished and checked their work, have them read the last paragraph titled "Read Maps When You Are Studying." Add your own word of encouragement to this follow-up application of map-reading skills.

Answers

Where Do Wild Gorillas Live?

1. b. 250 miles
2. c. sea level to 500 feet
3. b. 500 to 2,000 feet above sea level
4. b. 5,000 to 10,000 feet

What Type of Gorilla Was John Gorilla?

1. c. on a narrow strip north of Lake Tanganyika
2. c. on a 500-mile square south of the Cameroons

Was John Gorilla a Lowland Gorilla or a Highland Gorilla?

1. a. hot—68 degrees or more
2. b. warm—50 degrees to 68 degrees
3. b. hot—68 degrees or more
4. b. warm—50 degrees to 68 degrees
5. b. It is about the same all year.
6. a. It is about the same all year.
7. b. highland gorilla

TO WHICH CLASSIFICATION DOES JOHN GORILLA BELONG?

(Pages 20-21)

Purposes

This science selection is provided to give practice in the following skills: (1) identifying the classification pattern of writing; (2) using boldface headings to find major classifications; (3) using italicized headings to find subclasses; (4) classifying science facts; (5) associating particular items with a classification; (6) reading pictures to obtain information about classifications; (7) reading to answer questions about classifications.

Procedure

Make use of the different sections of content on these two pages in the order in which they appear. Use the same general procedures suggested in connection with preceding selection on science topics.

Stress the special skills mentioned in "Purposes" above, in all discussion concerning the instructions and answers to the activities. Urge students to use these procedures when studying classification articles in their science books.

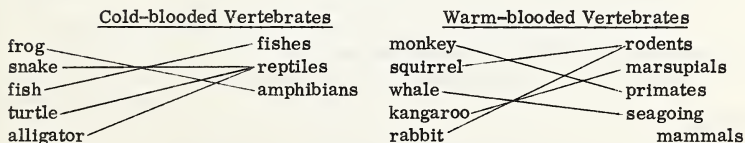
Allow 5 for each correct response in Activities 1 and 2.

Answers

Activity 1

1. fish (or the name of any particular kind of fish), frogs, toads, snakes, turtles, lizards.
2. horse, monkey, elephant, kangaroo, whale, dog
3. d. How do scientists classify animals?
 - f. What are some classes of cold-blooded vertebrates?
 - g. What are some classes of warm-blooded vertebrates?

Activity 2



Additional Activity

Here is an additional activity which you may want to write on the board or multigraph. Students may check or underline the correct answer.

1. Two important methods used by scientists are:
 - a. problem-solving
 - b. studying textbooks
 - c. using the dictionary
 - d. classification
2. Scientists classify all animals into two large groups according to whether or not they:
 - a. can swim
 - b. can walk on land
 - c. have a backbone and spinal cord
 - d. are cold-blooded or warm-blooded
3. Three classes of cold-blooded vertebrates are:
 - a. rodents, seagoing mammals, primates
 - b. carnivores, ungulates, gorillas
 - c. fishes, amphibians, reptiles
 - d. marsupials, primates, whales
4. Amphibians are different from fishes in this way:
 - a. They have gills only.
 - b. They have lungs only.
 - c. They have hands.
 - d. They have both gills and lungs.
5. Marsupials are different from all other mammals in this way:
 - a. They live in the water.
 - b. They have chisel-shaped teeth.
 - c. They have a pouch in which they carry their young.
 - d. They have hoofs.
6. Primates are different from all other mammals in two ways:
 - a. They have scales and live in the water.
 - b. They have pouches and chisel-shaped teeth.
 - c. They have hands and some can stand on their two feet.
 - d. They have hoofs and gills.
7. John Gorilla belongs to this classification:
 - a. rodents
 - b. carnivores
 - c. marsupials
 - d. primates

Answers

1. a. problem-solving, d. classification
2. c. have a backbone and spinal cord

3. d. fishes, amphibians, reptiles
4. d. They have both gills and lungs.
5. c. They have a pouch in which they carry their young.
6. c. They have hands and some can stand on their two feet.
7. d. primates

Studying in Your Science Books

Encourage the students to make use of what they have learned about reading science when studying in their science textbooks. You may wish to do this in some such way as suggested below.

"When you are about to read a chapter in a science book, always study the pictures first. Then read all of the headings in boldface or italicized type.

"Decide whether the information is presented by the problem-solving method, or by classification, or in some other way. If you decide that the chapter uses the problem-solving method, then read the chapter carefully to find each problem discussed, what was done to solve this problem, and what solution was found.

"If you decide that the classification method is used to give the information in the chapter, then read carefully to find what the different groups are, and how each group differs from the others."

JOHN GORILLA — A BIG EATER **(Pages 22-23)**

Purposes

To give students practice in reading problems: (1) to visualize the setting; (2) to find what they are to do; (3) to ascertain what facts they are given to work with; (4) to follow directions for working with problems.

Procedure

Discuss the picture and its appropriateness in terms of the title.

Have students read the instructions. Discuss them and emphasize the three procedures.

Let students proceed independently in answering the three questions under each problem, if they are able to do so. If not, give the necessary help. The students may compute the problems if time permits.

Strongly recommend the suggestions made under the heading "Reading Problems in Your Mathematics Books."

Answers

Answers to Questions

1. A. John Gorilla eating oranges and apples
B. How many pounds of fruit John ate that day
C. b
2. A. John Gorilla eating grapes for breakfast and lunch
B. How much of the bunch was left for supper
C. c
3. A. Alyse weighing John Gorilla
B. How many pounds the gorilla gained that week
C. b
4. A. John Gorilla with more weight on him
B. How much he gained
C. b
5. A. John Gorilla drinking milk daily
B. How many days it will take John to drink 56 quarts
C. a
6. A. Four gorillas being weighed at the zoo
B. How much the other pair weighed
C. b
7. A. A gorilla eating food
B. What fraction of his weight the gorilla ate that week
C. c
8. A. An explorer discovering a family of gorillas
B. What fraction of the family were females

Answers to Problems

1. $5 \frac{3}{4}$ pounds
2. $\frac{5}{12}$ of a bunch
3. $2 \frac{3}{4}$ pounds
4. 80 pounds
5. 16 days
6. $\frac{19}{40}$ ton
7. $\frac{1}{4}$
8. $\frac{1}{4}$

C. b

9. A. Areas in which there is a great deal of rain

B. Whether the Cameroons have a shorter or longer rainy season than the lowlands

C. c

10. A. Highland Gorilla-land and lowland Gorilla-land

B. What fraction of the length of the lowland strip is the length of the highland strip

C. a

9. The Cameroons have a rainy season one month shorter than the lowlands.

10. 1/2

DO YOU KNOW THE SOUNDS OF THE CONSONANT BLENDS?

(Page 24)

Purpose

To test the ability of students to recognize the sounds of the consonant blends.

Procedure

Have the students read the directions carefully. Make sure that they understand what to do in marking one of the letter groups under each picture.

Name the pictures for them, and then have them name the pictures before they begin marking the blends. This will prevent them from calling the picture some name that was not intended.

The names of the pictures in order are as follows:

- | | | | | |
|----------------|------------|------------|------------|----------------|
| 1. dress | 2. grapes | 3. train | 4. priest | 5. cross |
| 6. frog | 7. plate | 8. clock | 9. sled | 10. flag |
| 11. chalkboard | 12. globe | 13. star | 14. swing | 15. snake |
| 16. skunk | 17. smoke | 18. scales | 19. skates | 20. spoon |
| 21. twelve | 22. clam | 23. screw | 24. spring | 25. strawberry |
| 26. string | 27. screen | 28. strap | | |

Answers

- | | | | | | | |
|---------------|----------------|----------------|----------------|----------------|----------------|----------------|
| 1. <u>dr</u> | 2. <u>gr</u> | 3. <u>tr</u> | 4. <u>pr</u> | 5. <u>cr</u> | 6. <u>fr</u> | 7. <u>pl</u> |
| 8. <u>cl</u> | 9. <u>sl</u> | 10. <u>fl</u> | 11. <u>bl</u> | 12. <u>gl</u> | 13. <u>st</u> | 14. <u>sw</u> |
| 15. <u>sn</u> | 16. <u>sk</u> | 17. <u>sm</u> | 18. <u>sc</u> | 19. <u>sk</u> | 20. <u>sp</u> | 21. <u>tw</u> |
| 22. <u>cl</u> | 23. <u>scr</u> | 24. <u>spr</u> | 25. <u>str</u> | 26. <u>str</u> | 27. <u>scr</u> | 28. <u>str</u> |

Follow-Up Work

The students who miss some of the blends should use either the suggestion at the bottom of the page or other suggestions of your own.

DO YOU KNOW THE SPEECH SOUNDS?

(Page 25)

Purposes

(1) To develop ability to identify combinations of letters commonly known as speech sounds; (2) to develop ability to recognize the sounds of these combinations when they occur at the beginnings or ends of words.

Procedure

If students are able to read and follow the instructions independently, they should be allowed to read the explanations and do the exercises in the order in which they appear on the page. Otherwise, you should work with them as previously suggested in connection with preceding pages of this type.

In either case, name the pictures for the students before they begin work.

The pictures of words under the heading "Speech Sounds at the Beginning of Words" are intended to represent:

- | | | | | |
|----------|-----------|----------|----------|----------------|
| 1. shell | 2. church | 3. whale | 4. queen | 5. thermometer |
|----------|-----------|----------|----------|----------------|

The pictures under the heading "Speech Sounds at the End of Words" are supposed to represent:

- | | | | | |
|----------|----------|-----------|--------|---------|
| 1. match | 2. teeth | 3. squash | 4. ink | 5. king |
|----------|----------|-----------|--------|---------|

After students have finished the page, discuss each of the different sections with them. Ask them to give examples of other words that contain the different speech sounds mentioned.

Be sure that those who miss some of the speech sounds engage in the extra practice suggested.

Spend some time discussing "More About Speech Sounds."

Answers

Speech Sounds at the Beginning of Words

1. sh 2. ch 3. wh 4. gu 5. th

Speech Sounds at the End of Words

1. ch 2. th 3. sh 4. nk 5. ng

MAKING USE OF BLENDS AND SPEECH SOUNDS (Page 26)

Purposes

(1) To give students practice in making use of blends and speech sounds together with meaning clues in working out the pronunciations of new words; (2) to acquaint students with different sounds of gh, wh, and th.

Procedure

Follow the usual procedure of having students read and carry out the directions for this page. Adjust the amount of help you give to the needs of the students.

When all students have finished with the page, ask different ones to name the letters in the blend or speech sound in one of the words, pronounce the word, and tell its meaning. Conduct an oral check on all of the words in this way.

Answers

Finding Different Sounds of the Same Speech Sound

1. rough thorough though fought enough brought
2. whistle whom wheat whoop which whole

MORE ABOUT VOWELS (Pages 27-28)

Purpose

To develop three vowel principles through the process of generalization resulting from work with words that exemplify each of the principles.

Procedure

Read and discuss the first two paragraphs with the students. Work through the answers to the questions about ate with them. If they are able to continue independently, let them do so. If not, give them assistance.

When they have finished both pages and have checked their answers, have a discussion in which different students are asked to state one of the principles and to give a word to which it applies.

Emphasize the section under the heading "Applying What You Learned."

Answers

One-Syllable Words Ending in e

	<u>Is the first vowel long or short?</u>	<u>Is there an <u>e</u> at the end of the word?</u>	<u>Is the <u>e</u> silent or sounded?</u>
1. ate	long	yes	silent
2. bite	"	"	"
3. hope	"	"	"
4. use	"	"	"

Principle No. 1: When a word contains two vowels, one of which is final e, the first vowel is usually long, and the final e is silent.

One-Syllable Words with One Vowel

	<u>Is the vowel sound long or short?</u>	<u>Is there a vowel at the end of the word?</u>
1. at	short	no
2. bit	"	"
3. hop	"	"
4. us	"	"

Principle No. 2: When there is only one vowel in a word and that vowel is not at the end of the word, the vowel is usually short.

Two Vowels Together in a One-Syllable Word

	<u>How many vowels to- gether in the word?</u>	<u>Which vowel has a long sound?</u>	<u>Which vowel is silent?</u>
1. toad	2	first	second
2. beast	"	"	"
3. train	"	"	"
4. float	"	"	"
5. hay	"	"	"

	<u>How many vowels together in the word?</u>	<u>Which vowel has a long sound?</u>	<u>Which vowel is silent?</u>
6. real	2	first	second
7. throat	"	"	"
8. reach	"	"	"
9. seal	"	"	"
10. beam	"	"	"
11. load	"	"	"

Principle No. 3: When two vowels come together in a word, the first vowel is usually long, and the second is usually silent.

Words You Will Meet in the Next Unit

	<u>Which principle did you use?</u>		<u>Which principle did you use?</u>		<u>Which principle did you use?</u>
1. cove	No. 1	6. sail	No. 3	11. strip	No. 2
2. note	" 1	7. deal	" 3	12. lungs	" 2
3. tame	" 1	8. coast	" 3	13. gills	" 2
4. scale	" 1	9. mean	" 3	14. class	" 2
5. type	" 1	10. teach	" 3	15. stamp	" 2

HOW TO READ FAST

(Page 29)

Purposes

This page deals with a skill common to all types of content—that of reading more rapidly. The specific purposes of the page are: (1) to awaken interest in developing speed; (2) to acquaint students with "The Cornerstones of Speed"; (3) to begin to break up bad habits that interfere with speed; (4) to develop the concept of taking in several words at each glance, rather than reading in small units.

Procedure

It is desirable to work with the students throughout this page as they read the explanations. Encourage lively discussion. Amplify the information given when additional information seems desirable.

When reading each of the three questions under "Good Reading Habits," ask, "How many think you may have that habit?" Then ask them to read on and find out what they can do about it. Emphasize the necessity of faithfully carrying

out the suggestion for correcting each bad habit which they may have. In the future watch to see if students with such habits are trying to correct them.

Take time to explain and discuss the diagram of a "Poor Reader" and of a "Good Reader." The vertical lines represent pauses which the eyes made while reading the one line of print. The numbers above the vertical lines represent the order in which the eyes paused. The numbers below the vertical lines represent the duration of the pauses in terms of sixteenths of a second. For example, the first pause in the first line lasted for $22/16$ of a second or $1\frac{3}{8}$ seconds.

Suggest to students that they apply the instructions given in the past paragraph on the page when reading a newspaper, magazine, or story at home on the same night after they have worked with this page—and every night.

Procedures for Teaching

UNIT THREE

GREAT PATHFINDERS

The topic of explorers was chosen for this unit because it is of enduring interest to students and because its several aspects offer the opportunity to lead into selections in the fields of science, social studies, and mathematics.

YOUNG VIKING SAILOR (Pages 30-31)

Purposes

(1) To provide a highly appealing adventure story; (2) to develop appreciation by making inferences in regard to deeper meanings, trying to relive experiences of the chief character, sensing causes of a character's behavior, comparing characters, and finding proof in text; (3) to give practice in reading groups of words as a foundation for speed; (4) to check literal comprehension; (5) to furnish leads to the social studies, science, and mathematics selections that follow.

Procedure

Conduct the reading of these pages and the work with the comprehension questions and the discussion questions in the same way as suggested for the story "An Imaginary Trip to the Moon," discussed on pages 32-34 in this guide.

When the students have finished reading the story, discuss with them their success in grasping larger units of words. Ask if they think they were able to read the story more rapidly because of trying to read in longer phrase units.

No particular discussion is necessary when answers are given to the comprehension questions, because their function is to check literal comprehension only.

Space permitted only 7 questions for this selection. The score for each question (in terms of a total score of 100) is 14.28. Three additional questions are given below in case you wish to use ten questions with an even score of 10 for each question.

8. The land that they first saw was probably the country now known as what?
a. New England b. Labrador c. Virginia d. Florida
9. Whom did Leif take with him to explore the new land?
a. Magnus b. Eric the Red c. Thorfin d. the pilot

10. What did Magnus do when Thorfin moved to Leif's side?
a. smiled b. laughed c. shouted d. scowled

Some possible answers are given for the discussion questions. Any others that the students offer are entirely acceptable, if the answers indicate that good thinking has been done, or if they show that the reader actually lived with a character and understood his emotions and behavior.

Lively discussion and exchange of ideas should take place concerning the variety of answers that are given for the discussion questions. These questions are designed to lead students to sense deeper meanings and to develop appreciations.

Answers

Comprehension Questions

- | | | |
|----------------------|---------------------|---------------|
| 1. c. Greenland | 4. c. a fierce gale | 6. c. Thorfin |
| 2. c. Eric the Red | 5. c. porpoises | 7. c. America |
| 3. d. the North Star | | |

If questions 8, 9, and 10 stated under "Procedure" are used, the answers are:

- | | | |
|----------------|---------------|----------------|
| 8. b. Labrador | 9. c. Thorfin | 10. d. scowled |
|----------------|---------------|----------------|

Discussion Questions

1. He was angry that Leif was taking a farm boy.
2. He felt it was too dangerous
3. Yes. Thorfin thought, "It had been wonderful of the great Leif to take him."
4. Yes. He worked until the light was gone.
5. Thorfin. He had to make his own decisions. Jimmy was forced to stay when the door closed.

Additional Discussion Questions

6. How do you think Magnus walked when he "lumbered off"?
7. Why did Leif laugh at what Thorfin said when they were standing together at the prow of the boat?
8. Why did Thorfin's ears burn after he had said what he did about the porpoises?
9. Why were there tears in Thorfin's eyes when he awoke?
10. Compare Leif with Captain George. In what ways were the two men alike?

Answers

6. With a heavy step
7. He was pleased because Thorfin showed promise of becoming a sailor.
8. He was ashamed because he didn't know the difference between porpoises and sea serpents.
9. He thought he had failed as a sailor because he couldn't stay awake.
10. Both were brave, venturesome, eager to discover. Each was good-natured and kind to the boy who accompanied him.

EXPLORATION THROUGH THE AGES (Pages 32-33)

Purposes

To provide a social studies selection that offers opportunities for practice on the following skills: (1) associating phrases with the content of maps; (2) reading maps to make comparisons; (3) previewing a social studies selection to find topics in order of events with the use of boldface headings; (4) sensing causes and effects; (5) organizing facts read under specific headings; (6) recalling historical facts.

Procedure

Discuss the meaning of the title. Have students read the instructions, stopping for the map study requested in the first direction.

Supervise students to make sure that they preview the boldface headings before reading the selection. Then ask, "What four periods of exploration are you going to read about?"

Have them give the pronunciations and meanings of the new words. Ask them to read direction No. 3 again and tell you what they are going to look for in reading the selection.

After they have finished reading the selection and writing the answers to Activity 1, give them oral instructions similar to these:

"Check with information in the article to see if your answers are correct. If any of your answers are wrong, correct them.

"Now read the answers to the questions under each heading. Think about these answers and try to store them away in your memory so that you can recall them.

"Next, cover your answers with a sheet of paper. Then ask yourself the questions under each heading, and see if you can answer from memory. If you've forgotten some of the answers, remove the paper, find the information you want, then try again to answer the questions under all of the headings."

Answers

Activity 1. Who? What? Where?

Early

Phoenicians	To get tin	England
-------------	------------	---------

Middle Ages (Any 3)

Eric the Red	Adventure	Greenland
Leif the Lucky	Adventure	Labrador, Cape Cod
Marco Polo	To find China	China
Columbus	To reach India	America

After Columbus (Any 4)

John Cabot	To claim land	Labrador, Newfoundland
Ponce de Leon	To claim land	Florida
De Soto	To claim land	Great Lakes, St. Lawrence, Mississippi
Drake	To claim land	California
Hudson	To claim land; to explore	New York: Hudson Bay

Recent

Wilkins	Science	Arctic and Antarctic
Byrd	Science	Polar regions

Follow-Up

Space does not permit carry-over instructions to the students following this selection. They should be urged to carry out the suggestions below.

"When studying in your social studies or history books, you will often read about a whole series of events that happened through a long stretch of time.

In such cases, it will help you to grasp the important facts if you will make a chart like the one you have just made".

"Write a heading for each period. Then, under each heading write information to answer these questions:

Who were the
important
people?

What caused
them to do
what they did?

What happened?

"After you have completed your chart, think about it. Think about the cause of the event that happened in the first period, and how that prepared the way for what happened in the next period. Think of the whole chain of events as one leading to another. Then try to impress this whole picture of people, causes, and events in your mind, so that you will have the facts in your mental storehouse for use later on."

MARINERS AND MAGNETS

(Pages 34-35)

Purposes

To provide a selection in science which offers opportunity to give practice on the following skills: (1) gathering information by reading pictures of science objects; (2) previewing a science article with the use of boldface headings; (3) deciding on whether a selection is written in the problem-solving or classification pattern; (4) converting a heading into a question as an aid to reading; (5) reading to answer specific questions; (6) reading and following directions for an experiment; (7) drawing conclusions from an experiment.

Procedure

Have the students read the title and discuss its significance.

Ask them to read the instructions at the beginning of the selection and, also, those that have to do with the experiments on page 35.

Supervise them in carrying out directions numbered 1, 2, and 3.

If it is at all possible, get the following materials from the science laboratory: tacks, a bar magnet with ends marked N and S, respectively, a horseshoe magnet, a U-magnet, a bowl for water, and a piece of wood just large enough to float the bar magnet.

Let different children perform the experiments as they read and carry out the directions exactly, one by one.

Answers

Activity 1 - Questions and Directions

1. a. Get a bar magnet, a horseshoe magnet, a U-magnet, and some tacks.
b. Spread the tacks evenly on a table.

- c. Lay the bar magnet on the tacks.
 - d. Lift the magnet and notice where the tacks stick.
 - e. Do the experiment with the other magnets.
2. The magnet's force is strongest at its ends, regardless of its shape.
 3. a. Got a bar magnet marked N and S, a bowl with water, and a piece of wood.
b. Floated the magnet in the bowl.
c. Watched to see if one end always points in one direction and the other end always points in the opposite direction.
 4. One particular end of a bar magnet always points north.

Additional Questions

1. What was the problem that faced early mariners?
2. What were the only real guides for early mariners?
3. What were the drawbacks of these guides?
4. Who first discovered the lodestone?
5. From what word does magnetism come?
6. How was the first compass made?

Answers

1. Lack of instruments to indicate exact directions
2. Sun and stars
3. They were inaccurate, and sometimes could not be seen.
4. Greeks and Romans
5. Magnes
6. Mariners floated a piece of magnetized iron in a bowl.

FACTS AND FIGURES ABOUT EXPLORERS (Pages 36-37)

Purposes

(1) To review the first three skills that students have previously practiced in reading problems; (2) to provide practice on a fourth skill, rereading to decide what process to use.

Procedure

Have students read the instructions. Ask a few different ones to tell what they are going to do and in what order they will do it.

They are to underline their choices of the best processes to use.

When they have finished, read and discuss with them the carry-over suggestion under the heading "Reading Problems in Your Mathematics Book."

Answers

Answers to Questions

1. A. A compass card
B. The number of degrees between each point of direction
C. 360 degrees, 32 points
D. d. divide
2. A. Leif Erickson's ship sailing
B. How many land miles Eric traveled
C. 216 nautical miles; nautical mile 1.15 times as long as land mile
D. c. multiply
3. A. An ancient Venetian galley discharging passengers at Constantinople
B. How many people got off at Constantinople
C. 760 passengers, .825 being discharged
D. c. multiply
4. A. The Santa Maria
B. How wide the Santa Maria was
C. 128.5 feet long, width $\frac{1}{5}$ of length
D. c. multiply
5. A. The Santa Maria, the Pinta, and the Niña

Answers to Problems

1. 11.25 or $11 \frac{1}{4}$ degrees
2. 248.4 land miles
3. 627 passengers
4. 25.7 feet
5. 194.3 tons

Answers to Questions

- B. What the total tonnage of Columbus' fleet was
- C. 103.25 tons, 51.37 tons, 39.68 tons
- D. a. add
6. A. Magellan starting with five ships
- B. What the total tonnage of the five ships was
- C. 121 tons, 109 tons, 90 tons, 86 tons, 75 tons
- D. a. add
7. A. An explorer planning supplies for a voyage
- B. How many gallons of water he must load
- C. 8,375 gallons, 53 days
- D. c. multiply
8. A. Casks being loaded onto the Half Moon.
- B. How many casks were used
- C. 5,664 pounds of water; 59 pounds per cask
- D. d. divide

Answers to Problems

6. 481 tons
7. 443,875 gallons
8. 96 casks

ADDITIONAL SOUNDS OF THE VOWELS (Page 38)

Purposes

To review: (1) sounds of vowels when followed by r; (2) the two sounds of oo and their diacritical markings; and (3) the sounds of oi and oy.

Procedure

The instructions on page 38 are adequate for independent work. It would be advisable, however, to have the students pronounce the words orally before beginning to work with each different set of phonic elements. This should be done under supervision. In doing this introductory work with "Vowels Followed by r," mention some words that have the sounds of long and short vowels respectively, such as ate, at. Ask if the a in car sounds differently than the a in ate. In at? How about the a in hard? In farm?

Continue in the same way with the other vowels, having students contrast the long and short sounds in sample words with the sounds of the vowels followed by r.

After reading the first paragraph under "Sounds of Double o," ask them to name other double o words that have the short sound, and others that have the long sound.

The sounds of oi and oy may be treated orally by having the students read aloud the two lines of words under the heading and listening to the sounds of these elements.

After this preliminary oral work, students should independently read and carry out the directions on the page.

Answers

Vowels Followed by r

A. 1. Yes 2. Yes 3. Yes 4. Yes 5. Yes 6. Yes

B. If the only sounded vowel in a word is followed by r, the sound of the vowel is usually controlled by the r, and the sound of the vowel is neither short nor long.

C. a. ärm b. bŭrn c. makĕr d. däre
e. fŏrm f. bird (bŭrd) g. fŭr h. pĕr cent

Sounds of Double o

Long Sound

cōol

fōod

sōon

fōol

Short Sound

wŏod

tŏok

bŏok

Sounds of oi and oy

When o and i or o and y come together in a word, both letters are heard in one blended sound. Both oi and oy have the same sound.

HOW WELL CAN YOU RECOGNIZE VOWEL SOUNDS?

(Page 39)

Purposes

(1) To test the student's ability to discriminate among the long and short sounds of vowels and the sounds of vowels when followed by r; (2) to provide an opportunity to apply knowledge of vowel sounds in working out the pronunciations of new words.

Procedure

Name the pictures in the test, and have the students name them after you. This prevents any errors that may be due to picture identification.

The names of the pictures are:

1. star 2. corn 3. cat 4. fern 5. hat 6. fur 7. bird 8. fan 9. cake

After naming the pictures, students should be able to do the test and the rest of the page independently.

Answers

Finding the Correct Vowel Sound

9 long a as in ate

7 i followed by r as in stir

3, 5, 8 short a as in at

2 o followed by r as in horn

1 a followed by r as in car

6 u followed by r as in hurt

4 e followed by r as in herd

Applying Vowel Sounds

1. frōnds short o

10. fōrm o followed by r

2. scŭm short u

11. smärt a followed by r

3. slīmē long i

12. firs (fŭrs) i followed by r

4. cōēs long o

13. tŭrn u followed by r

5. jŭg short u

14. jerk (jŭrk) e followed by r

6. shrŭb short u

15. fern (fŭrn) e followed by r

7. spěck short e

16. pēak long e

8. shirt (shŭrt) i followed by r

17. feāst long e

9. cōāst long o

18. yēāst long e

FINDING SYLLABLES IN WORDS

(Page 40)

Purpose

To give students experience in recognizing the syllabic units in words.

Procedure

Ability to divide words into syllables is the most useful of all word recognition skills at the high school level. Students' first attack on a new word should be to divide it into syllables. Their next step should be to apply their knowledge of phonics in pronouncing each syllable.

Dividing words into syllables involves a great deal more than the memorizing of two or three principles. Syllabication calls for a hierarchy of skills. Up to this point, practice in the basic skills in this hierarchy has been given: (1) being readily able to discriminate between consonants and vowels; (2) knowing when a vowel is silent; (3) recognizing the most common sounds of vowels and consonants.

With this foundation in mind, page 40 initiates the study of true syllabication by teaching students the concept of a syllable. Other aspects of syllabication will be introduced gradually on successive pages.

Ordinarily students should be able to do this entire page independently. If they have difficulty, however, precede the work by pronouncing several words orally, and asking them to tell how many syllables each word has.

Answers

How Many Parts or Syllables Can You Hear ?

get	1	dipper	2	grownup	2
happen	2	crack	1	handful	2
multiply	3	Columbus	3	paragraph	3

Counting Vowels and Syllables

	<u>Vowels</u>	<u>Syllables</u>		<u>Vowels</u>	<u>Syllables</u>
fast	1	1	mariner	3	3
compass	2	2	know	1	1
mix	1	1	develop	3	3
deck	1	1	problem	2	2

True or False?

- There are as many syllables in a word as there are vowel sounds. Yes
- Each part of a word which has a vowel sound is a syllable. Yes

Do Silent Vowels Count ?

	<u>How many vowels are silent ?</u>	<u>How many vowels are sounded ?</u>	<u>How many syllables in the word ?</u>
rose	1	1	1
wave	1	1	1
huge	1	1	1
sail	1	1	1
coast	1	1	1
beam	1	1	1

The only vowel that counts when you are deciding on the number of syllables is the vowel that is sounded.

DIVIDING WORDS INTO SYLLABLES

(Page 41)

Purposes

(1) To acquaint students with four of the principles of syllabication; (2) to give them experience in applying these principles.

Procedure

Students should be able to do this page independently, applying the principles to the lists.

Develop the work orally or elicit discussion if you think such activities are advisable for the group with whom you are working.

When the students have finished the page, introduce the suggestions under "Follow-Up Work."

Answers

Dividing Between Words Forming Compounds

wind/storm	rain/tree	gold/finch	nut/shell
drive/way	north/west	bold/face	rain/fall
up/lands	song/birds	horse/tail	puff/ball

Dividing Between Double Consonants

din/ner	rab/bit	hap/py	dif/fer
ac/count	swim/mer	bot/tom	cab/bage
ped/dler	Bin/nie	ar/range	sum/mer

Dividing Between Separately Sounded Consonants

gar/den	ob/long	sur/face	com/pose
win/ter	per/son	dis/cuss	ex/port
chap/ter	car/pet	sen/tence	mem/ber

Dividing Between Single Consonants

ho/tel	di/vide	au/tumn	to/tal
hu/man	na/tive	fa/mous	wa/ter
de/cide	spi/nal	pro/vide	cli/mate

Follow-Up Work

Discuss follow-up work with students in some such manner as this:

When you come to a new word that you cannot pronounce, divide it into syllables. Watch for compound words, double consonants between sounded vowels, separately sounded consonants between sounded vowels, and single consonants between sounded vowels. Then apply what you have learned in this section.

There are some exceptions to the last three principles discussed in this lesson, but the principles usually work. After you think you know how the word is pronounced, try it out in the sentence in the book. If the word as you pronounce it makes sense, then you have divided it correctly. If it doesn't make sense, look it up in the glossary of the book or in a dictionary.

LEARNING SCIENCE WORDS

(Page 42)

Purposes

(1) To acquaint students with the pronunciations and meaning of several words commonly found in the technical vocabulary of science textbooks at high school level; (2) to give an opportunity to apply to new words the phonics and syllabication techniques which the students have had so far in this book.

Procedure

It would be desirable for you to work directly with the students by asking for oral responses as they read and carry out the directions on this page. Even though they know many of the words, they need to have the experience of applying the word techniques they have learned. The only way in which you can be sure that they make use of these techniques is to conduct the work orally.

Answers

Testing Yourself on Meanings

condense	the solid shape assumed by many minerals
cancer	a strong, circular windstorm
crystal	a group of simple plants with green coloring
explode	material used to feed fire
fuel	to grow larger
cyclone	to make dense
algae	to burst from force within
expand	a poisonous growth in the body

WORKING WITH SOME WORDS THAT ARE NEW IN UNIT FOUR

(Page 43)

Purposes

(1) To give students an opportunity to make use of the word attack techniques that they have learned so far in pronouncing some of the new words that will be introduced in Unit Four; (2) to acquaint them with the meaning of each of these words as it is used in the context in which they will read it in the next unit.

Procedure

It would be advisable for you to work with the students, as they carry out the directions for pronouncing the words and answer the questions about sounds and syllables. Even if they know a word, have them follow through with the instructions to show the possibilities of making applications. After they have worked out the pronunciation of each word through the use of word attack techniques, ask students to give the meaning of the word orally.

Sum up by having all of the words pronounced. Each student who pronounces a word should be asked to give its meaning without reference to the page.

Answers

Following the explanation beneath a word, a question is frequently asked which requires the student to write a word in a blank space. The words needed in these spaces are given below.

4. Is it long or short? Short. There are two vowels in the second syllable. Which one is silent? e
7. In pronouncing the second syllable, remember that when g is followed by i, it usually has the soft sound. You may have noticed that when a vowel comes at the end of a one-syllable word it has the long sound. The same is true of the final syllable in a longer word. So what sound does i have in fungi? Long
8. You know that r governs the sound of o. Each of the other vowels has the short sound.

Additional Activity

The four words below are new in the next unit. They offer an excellent opportunity to apply the principle concerning two vowels appearing together.

1. Easter
Meaning: a religious holiday celebrating the rising of Christ from the dead
2. feast
Meaning: a large meal
3. yeast
Meaning: tiny, colorless plants
4. peak
Meaning: In the next unit peak means "a mountain."

Pronunciation: In each of the four words above, there are two vowels together. Which vowel is sounded? Does it have the long or short sound? Pronounce the word.

FINDING THE MAIN IDEAS IN PARAGRAPHS

(Page 44)

Purpose

To give initial practice in the use of the very important skill of finding the main idea in paragraphs.

Procedure

Lend your support to the content of the introductory paragraph on page 44 by explaining that the students are about to learn one of the most useful skills in reading.

Work with the students as they read the first paragraph. Ask different students which of the ideas listed below the paragraph they think is the most important. Have them give their reasons.

If they seem to understand the process well enough to continue independently, let them do so. If not, work with them in picking out the main idea in each paragraph as long as it seems necessary to do so.

Answers

A. c

B. c

C. b

D. a

E. b

READING FAST

(Pages 44-45)

Purposes

(1) To give students practice in reading in meaningful word groups as a foundation for developing speed; (2) to teach them how to time their reading; (3) to teach them how to compute their speed score in terms of words per minute.

Procedure

Discuss the instructions on page 44 with the students as they read them.

Make very sure that they always start on an even minute. This practice prevents the complication of subtracting seconds at the end of the timed reading exercise.

Point out the spaces for the hour and minute after the phrase "Beginning time" and see that they all write their beginning time in these spaces.

Urge them to try taking in each group of words between the marks with just one swift glance. Tell them they'll be checked on their understanding of the story as well as on their speed.

It is very important that you help students to work out their speed score with the use of the formula. Place the beginning time and ending time of several different students on the chalkboard and demonstrate the use of the formula in working out WPM for each one.

When each student has found out the number of words per minute which he read, have the students take the "Yes-No" test on comprehension.

Have them check their answers as you read the answers to them. Ask them to allow 10 for each correct answer. They should multiply the number correct by 10 to obtain their comprehension score.

Discuss comprehension and speed scores in relation to one another, using the scores of different students.

Tom might have read 400 WPM and gotten a comprehension score of 30. This means that Tom was reading too fast to get the thought. He should be instructed not to try to read faster than he can get the meaning. John may have read 150 WPM and gotten a perfect comprehension score. He needs to direct much effort toward the goal of learning to read more rapidly. Marie, perhaps, read 100 WPM and also missed several of the comprehension statements. She needs to work hard at improving both her speed and comprehension. Such discussion as this is an extremely important diagnostic measure to take at this time.

Answers

- | | | | | |
|-------|--------|-------|--------|---------|
| 1. No | 2. Yes | 3. No | 4. Yes | 5. No |
| 6. No | 7. No | 8. No | 9. Yes | 10. Yes |

Procedures for Teaching

UNIT FOUR

THE KINGDOM OF PLANTS

The subject of plants was chosen as the topic for this unit because interesting selections could be developed in connection with this topic, and because it is a subject commonly treated in social studies and science books at the junior high school level. This being the case, opportunity is offered to teach students reading skills needed in working with the same kinds of material which they have in these other subjects.

BLESSINGS FROM THE RAIN TREE

(Pages 46-47)

Purposes

(1) To provide a story of strong appeal to students; (2) to develop appreciation by providing opportunities to recognize and understand factual background upon which a fanciful story is based, to draw inferences concerning deeper meanings, to explain meanings of selected phrases or sentences, to decide upon the action the reader would have taken had he been in the character's place, to anticipate a different ending if an incident in the story had been different; (3) to increase speed by giving practice in timed reading; (4) to check literal comprehension; (5) to offer leads to the subject matter selections which follow.

Procedure

Have students read the introductory paragraphs. Invite discussion of the information given in these paragraphs and gleaned from the picture of the rain-tree.

After reading the two paragraphs of instructions, ask the students to see how fast they can read this story without having groups of words marked off for them as they were on page 45.

Give whatever supervision is necessary in seeing that students correctly record their beginning times.

As each one finishes reading the story, make sure that he records his ending time and transfers his beginning time from the opening of the story to the blank provided for it at the end. Then have him use the formula to compute his number of words per minute.

— Have the students check their comprehension by doing the exercises under "Comprehension Questions." Read the answers and have them compute their scores by allowing 10 for each correct response. Discuss the relationship between the comprehension and speed of several students as suggested in the procedure discussed on page 75 of this guide.

Finally, have students write their responses to the discussion questions. Conduct an oral discussion of these responses and accept different points of view. No effort should be made to score these responses. They are provided to lead students to seek deeper meanings and motives and to develop satisfying personal appreciations.

Answers

Comprehension Questions

- | | |
|--------------------------------|------------------|
| 1. c. The Canary Islands | 6. b. unfriendly |
| 2. b. clouds | 7. c. Poco |
| 3. a. Ferro | 8. b. fig leaves |
| 4. c. hills of black lava | 9. b. his mother |
| 5. b. Señor Rafael's fig trees | 10. c. his home |

Discussion Questions

Some tentative answers are given. Accept any others that show careful thinking, interpretation, and reasoning.

1. (a) No. I wouldn't want anything to do with a person who was unfriendly to me. (b) Yes. He was in trouble and I would have helped him anyhow.

2. (a) Tried to fix it to hold water (b) Gone home for another jar

3. Yes. It was the honest thing to do.

4. (a) Accidentally things may turn out for the best. (b) Señor thought that the accident of breaking the vase showed him what kind of a boy Jose was. (c) The accident brought Señor new friends.

5. Probably Jose wouldn't have gotten the job of bringing water every day. The family wouldn't have been invited to dinner. The two families wouldn't have become friends. Señor would have just thanked Jose for bringing the water, and that would have been the end of it.

LAND WHERE THE RAINTREE GROWS

(Pages 48-49)

Purposes

To provide a social studies selection that offers an opportunity to practice the following skills: (1) reading maps to associate proper names with topographic features; (2) finding the main idea in paragraphs of social studies material; (3) relating details in a paragraph to its main idea.

Procedure

After guiding students in their map study, have them read the additional directions. Conduct work in finding the main idea in the same way as was suggested for working with page 44.

In this case, however, after students have underlined the main ideas, make sure that they read the entire selection again to find what facts are given about each main idea.

Answers

1. c 2. b 3. a 4. c 5. c 6. b 7. a 8. b 9. a 10. b 11. c

Additional Activity

After reading the selection carefully, the students may answer each of the questions below in three words or less.

1. What language is spoken in the Canary Islands?
2. Columbus stopped at the islands, where he loaded fresh food and did what else?
3. What is the name of the largest island in the Canaries?
4. Teide Peak is considered by some to be higher than what mountain?
5. During what season of the year do the islands have the least rain?
6. Tomatoes, potatoes, onions, grapes, and sugar cane are grown on the islands. Name a fruit grown there that is so plentiful it can be exported.
7. Along what coast do the fishermen fish?
8. What are the most famous birds on the island?
9. What was the most interesting tree that you read about in this article?
10. With what are the designs on the pavement filled for the march on the day of the feast of Corpus Christi?

Answers

- | | | |
|-----------------------|----------------|-------------------|
| 1. Spanish | 4. Mt. Everest | 8. Canary birds |
| 2. Repaired his ships | 5. Summer | 9. Dragon tree |
| 3. Tenerife | 6. Bananas | 10. Flower petals |
| | 7. African | |

TO WHAT CLASSIFICATION DOES THE RAINTREE BELONG? (Pages 50-51)

Purposes

This is a science selection provided to give the student practice on the following skills for use in studying science material: (1) reading pictures of groups of plants to obtain information about plant classifications; (2) identifying the classification pattern of writing in science; (3) using boldface headings to indicate different classification groups; (4) finding likenesses and differences among major groups and subgroups in a selection dealing with classifications; (5) classifying information obtained by reading a science selection.

Procedure

Have the students read the title and decide what pattern of science writing they are about to read.

Ask them to read the names of the four classifications pictured. See if they can identify plants within each classification.

Have them read and carry out the other instructions independently, if possible. If not, then with your help.

Make sure that they do Activity 1 after previewing the headings and before reading the selection.

Allow 7.7 points for each response.

Answers

Activity 1

- | | |
|----------------------------|-------------------------|
| 1. a. Simple bodied plants | 3. a. Liverworts |
| b. Mosses | b. Mosses |
| c. Ferns | |
| d. Seed plants | 4. a. Ferns |
| | b. Horsetail rushes |
| 2. a. Algae | c. Club mosses |
| b. Fungi | |
| | 5. a. Plants with cones |
| | b. Plants with flowers |

Additional Activity 1

A. Have students choose the right answer:

1. If the raintree has roots, stems, and leaves, and reproduces by seeds, to which classification does it belong?
 - a. Ferns that grow in damp places
 - b. Simple-bodied plants with chlorophyll
 - c. Seed plants
2. The simple-bodied plants are so-called because:
 - a. They have bodies like people.
 - b. They consist only of a body with no roots, stems, or leaves.
 - c. They really are animals.
3. The difference between algae and fungi is that:
 - a. Algae have roots, but fungi have no roots.
 - b. Algae have chlorophyll, but fungi do not.
 - c. Algae can be seen with the naked eye, but none of the fungi can be seen.
4. The difference between liverworts and mosses is that:
 - a. Liverworts grow in damp places, but mosses do not.
 - b. Liverworts are fleshy, creeping plants, but mosses stand upright and are tiny in size.
 - c. Mosses have leaves, but liverworts do not.
5. The difference between ferns and the horsetail rush is:
 - a. The fern has lacy fronds, but the horsetail rush has a tall, stiff stem with clusters of spikelike leaves.
 - b. The fern has strong roots, but the horsetail rush has no roots.
 - c. The horsetail rush has only a body, but the fern has roots and stems.
6. Club mosses are unlike ferns because:
 - a. They have no chlorophyll.
 - b. They grow on mountains.
 - c. They look like little pine trees and stay green all winter.
7. The chief difference between the two classifications of seed plants is:
 - a. One has leaves, the other has no leaves.
 - b. One produces seeds in cones, the other produces seeds in flowers.
 - c. One has chlorophyll, the other has no chlorophyll.

Answers

1. c 2. b 3. b 4. b 5. a 6. c 7. b

Additional Activity 2

B. Have students write the names of all the plants they can think of under each of these headings:

Fungi

Seed plants
with cones

Seed plants
with flowers

Answers

This list will vary with individual students. A sample list is given below.

<u>Fungi</u>	<u>Seed plants with cones</u>	<u>Seed plants with flowers</u>
yeast	pine trees	roses
puffballs	spruces	petunias
mold	firs	daisies
bacteria	cedars	sweet peas
		wheat
		hay
		berries
		radishes
		apple trees

HOW BIG, HOW MANY, HOW MUCH? (Pages 52-53)

Purposes

(1) To give practice in reading problems to find: What picture do you see? What are you asked to find? What facts are given? What process should you use? (2) To think through all of these items with no help from multiple choice answers.

Procedure

Have the students read the instructions. Answer any questions that they may have, and then let them work independently.

Discuss carry-over work suggested in the last paragraph on page 53.

Answers

Answers to Questions

- The city of Santa Cruz
 - How many degrees higher than the average temperature it was on a particular day
 - 72°; 7 per cent higher
 - Multiplication
- The Canary Islands
 - The Province of Prince Edward Island
 - How many more square miles there are in the Canary Islands than in Prince Edward Island
 - 2,984 square miles; 2, 184 square miles
 - Subtraction

Answers to Problems

- 5.04 degrees higher
- 800 square miles

Answers to Questions

3. A. 1. Mount Vancouver on the Canada-Alaska boundary
2. Teide Peak
B. What per cent of the height of Mount Vancouver is the height of Teide Peak
C. 15,700 feet; 12,162 feet
D. Division
4. A. People in the Canary Islands
B. What per cent of the Canary Islanders are fishermen
C. 820,000 people; 10,000 fishermen
D. Division
5. A. Fish caught by a Canary Island fisherman
B. What per cent of his weekly total this fisherman caught on Monday
C. 725 fish; 116 fish
D. Division
6. A. A raintree that drips water
B. How many gallons this tree loses through evaporation
C. 12 gallons; 25 per cent lost
D. Multiplication
7. A. Rain falling in Prince Edward Island
B. What per cent of the year's rain fell in September
C. 4.12 inches; 31.86 inches
D. Division

Answers to Problems

3. 77.5 per cent
4. 1.2 per cent
5. 16 per cent
6. 3 gallons
7. 12.9 per cent

WORKING WITH COMPOUND WORDS (Page 54)

Purposes

(1) To give students practice in dividing compound words into two separate words; (2) to give experience in defining compound words.

Procedure

Let the students read the first three paragraphs. Invite them to discuss any experiences which they have had in learning and using the four methods of attacking new words which are commonly taught in the elementary grades. Ask which ones they still use effectively. Emphasize the need for constant review.

It would probably be helpful if you would review with the students the use of different aids which are provided to them in their textbooks. Perhaps the paragraph below would be of assistance to you in planning this review of textbook aids.

If the students have any difficulty with the compounds, write on the board a few compound words (other than those on the page) and demonstrate how to derive a definition from studying the shorter words.

Answers

1. by/ways: roads little known or used; byroads, side roads
2. trail/ways: roads like trails, or following routes of trails
3. water/ways: bodies or streams of water on which boats travel
4. rail/ways: roads having tracks made of rails
5. air/ways: paths or routes over which airplanes travel
6. sky/ways: paths in the sky over which planets travel; could be airplane paths, also
7. space/ways: paths in space
8. motor/cycle: a two-wheeled vehicle moved by a motor
9. ware/house: a place where goods are stored
10. stage/coach: a carriage that stopped at intervals ("stages") to change horses and drivers
11. pack/horse: a horse used to carry packs of goods
12. sea/board: land near the sea; a coast
13. thunder/struck: overcome as if hit by a thunderbolt
14. tea/kettle: a kettle used in making tea
15. rail/road: a road of rails on which wheels of cars may travel
16. in/land: land away from the border or coast
17. flat/boat: a large flat-bottom boat
18. horse/back: on the back of a horse

MORE ABOUT DIVIDING WORDS INTO SYLLABLES (Page 55)

Purposes

(1) To review the four syllabication guides already presented; (2) to introduce and give practice with two additional guides and an important exception.

Procedure

Have the students review briefly the four guides which they have previously had. Then let them read and discuss each of the additional guides and the exception. Add any explanations which you feel to be necessary. You may help the students divide the first word or two in the exercises if there is any question in the students' minds as to how to proceed. The students should be able to complete the exercises without difficulty.

Answers

Dividing Between Words Forming Compounds

drug/store	under/line	lime/stone	text/book
apple/seed	water/melon	sales/man	strong/hold

Dividing Between Double Consonants

mes/sage	sum/mon	cor/rect	ef/fort
nar/row	pas/sage	rac/coon	com/mand

Dividing Between Separately Sound Consonants

car/bon	fer/tile	san/dal	bor/der
con/tain	mar/gin	en/gine	mix/ture

Dividing Before Single Consonants

stu/dent	vi/tal	de/cay	se/lect
hu/mus	ba/boon	stu/pid	ti/tle

Considering Consonant Blends and Speech Sounds As Single Consonants

ma/chine	con/trol	Na/than	de/gree
li/brary	pro/gram	au/thor	Cham/plain

Dividing Between Prefixes, Root Words, and Suffixes

re/fund	harm/less	west/ern	un/fold
state/ment	mis/take	faith/ful	good/ness

Exception:

cir/cle	gen/tle	ca/ble	rum/ble
---------	---------	--------	---------

APPLYING ALL YOUR AIDS TO PRONUNCIATION

(Page 56)

Purposes

(1) To give an opportunity to apply knowledge of vowel sounds and syllabication; (2) to give experience in using context clues to check phonetic pronunciation; (3) to give help with new words which will be introduced in the next unit.

Procedure

Some of the vowels call for marks that have not yet been reviewed in this book. Explain this to the students and suggest that when they are in doubt about a marking they may refer to the pronunciation key at the bottom of page 57. If they can match a sound with one in the key, they should mark the sound as it is marked in the key.

Tell the students also that they may respell part or all of a word if it is pronounced differently from its spelling. In such cases they may write the respelling to the right of the word and place parentheses around the respelling. The vowel may then be marked in the respelling.

You will probably need to supervise and assist the students while doing this page.

It will be most convenient to put the answers on the chalkboard for checking purposes. Underscored letters indicate schwa sounds.

Answers

Marking One-Syllable Words

1. g^ēār 2. slē^əǵē 3. schē^ēmē 4. shāft 5. sō^ōŕcē 6. stavē

Dividing and Marking Two-Syllable Words

1. ĭg/nitē 3. jōs/flē 6. Dīe/sēl
2. mēm/bēr 4. schoōn/ēr 7. cār/rī^īǵē (or cār)
5. clūm/sy (sī)

Dividing and Marking Three-Syllable Words

1. ěx/pēn/sīvē 3. wīl/dēr/nēsē 5. pās/sēn/gēr
2. sēt/flē/mēnt 4. cōn/tī/nēt 6. cōn/trāp/tion (shūn)

WORKING WITH SCIENCE WORDS (Page 57)

Purposes

(1) To acquaint students with additional sounds of the vowels; (2) to familiarize students with pronunciations and meanings of some of the words they will meet most frequently in their science texts.

Procedure

Read through the instructions with the students. If copies of the Merriam-Webster Dictionary are available, have students find the sounds discussed on this page in the pronunciation key. If dictionaries are not available, write the sample words on the board and have the students mark them. In either case see if they can think of more examples of words containing each sound. Write these additional examples on the board and have them marked.

After this development, ask students to continue with the work on the page.

Answers

- | | | | | |
|-------------|--------------|-------------|--------------|-------------|
| 1. calories | 3. evaporate | 5. aneroid | 7. alcohol | 9. ammonia |
| 2. alfalfa | 4. acid | 6. ascorbic | 8. digestion | 10. calcium |

FINDING THE MAIN IDEA IN A PARAGRAPH (Page 58)

Purpose

To give students practice in finding the main idea in a paragraph when the main idea is located in places in the paragraph other than the first sentence.

Procedure

Have the directions read, then work through the first paragraph and multiple-choice sentences with the students. If they are capable of continuing independently, let them do so. Otherwise give them whatever assistance is necessary.

Answers

- A. c B. b C. c D. c E. b F. c G. a

HOW TO READ FAST
(Page 59)

Purposes

(1) To aid students in developing habits of rapid reading by deliberately trying to take in a meaningful group of words at each glance; (2) to give students additional practice in the procedures accompanying timed reading.

Procedure

After having the instructions read, discuss with the students the possibility of reading straight down each column of phrases without moving their eyes to left or right. Explain that as soon as they learn to take in an entire meaningful phrase at each glance, they will be able to pick up speed rapidly.

Let them try reading the columns as directed. Invite them to discuss their experiences. Then have them write answers to the questions, which you may read to them.

After having them check their answers and discuss their comprehension of the story about Hilda, proceed with the selection "The First Club in Canada." Urge them to take in as many words at each glance as possible. When each student has finished reading and has computed his WPM, ask the questions to check comprehension.

Comprehension Questions for "Blue Flowers"

1. What is the story about?
2. Where was the village?
3. With what was the mountain covered in spring?
4. Who did the villagers think lived on the mountain?
5. What was her name?
6. What was her responsibility?
7. What did the villagers think had happened when it rained?
8. What did they think had happened when it snowed?
9. What did they think about Hilda when the weather was fair?
10. What did they think about Hilda when clouds rolled in the summer sky?

Comprehension Questions for "The First Club in Canada"

1. Where did Champlain begin his settlement?
2. What was the name of the first club in Canada?
3. Why did the first settlers to our land from Europe find it difficult to survive the long, hard winters?
4. How did Champlain overcome these difficulties?
5. What were the settler's reactions to this plan?
6. How did a settler know when it was his turn to prepare meals?
7. Who wrote many details about the club in his diary?
8. What was Champlain's opinion of the club's worth to the settlement?
9. Who revived this club later?
10. Who is the club's leading official now?

Answers

Blue Flowers

- | | |
|------------------------------|-----------------------------------|
| 1. A village | 6. She had charge of the weather. |
| 2. At the foot of a mountain | 7. Hilda had upset her water pot. |
| 3. Flowers | 8. Hilda was plucking her geese. |
| 4. A beautiful princess | 9. Hilda was happy. |
| 5. Hilda | 10. Hilda was washing. |

The First Club in Canada

- | | |
|---|--|
| 1. Port Royal | 5. They became enthusiastic. |
| 2. L'Ordre du Bon Temps
(Order of Good Cheer) | 6. In the evening after dinner the steward placed a gold collar round the neck of the steward for the next day.
(There must have been some designated order as some men began preparations for their meals two or three days in advance.) |
| 3. Lack of fresh food caused scurvy.
Their cabins were small.
Too little for the men to do. | 7. Lescarbot. |
| 4. To give each man his turn in
being steward for a day. | 8. He said that the club did more to keep the men healthy than any medicine. |
| 9. The government of Nova Scotia. | 10. Governor General of Canada |

Follow-Up

In some such way as this, encourage students to apply what they learned:

"Whenever you are reading stories or easy material in magazines or books, force your eyes to take in as many words as you can at each glance. Make an effort to read fast but still get the thought. If you do this every day, you will be surprised to see how much you will gain in speed."

Procedures for Teaching

UNIT FIVE

WHEELS AND WINGS

This unit deals with transportation. The subject of transportation was chosen for the unit topic because it is of interest to high school students, because different phases of this subject are commonly taught at the junior high school level, and because it offered possibilities of giving experiences in reading related material in different subject fields.

JEAN'S LITTLE HOBBY (Pages 60-61)

Purposes

(1) To provide an interesting narrative that students will enjoy reading; (2) to develop appreciation by providing opportunities to recognize factual background on which a narrative is based, to draw inferences, to decide upon the emotion the reader might have felt if had he been the character, to evaluate a character's actions, to sense the cause of a character's behavior, to explain the meaning of a specific phrase; (3) to give practice in the rapid reading of a narrative; (4) to check literal comprehension; (5) to offer leads to the subject matter selections that follow.

Procedure

Have the material on these two pages used in the same general way as previously suggested.

Place emphasis upon rapid reading, and urge students to try to read this story more rapidly than they read the last story. Have them compare the speed and comprehension scores that result from reading this story and the story about the raintree.

Answers

Comprehension Questions

1. Member of the King's court
2. They were making a mess.
3. The attic was hot and dirty.

4. England
5. A picture of a figure riding a two-wheeled contraption
6. Build a two-wheeled machine
7. Showed them a crude, horseless carriage
8. The machine didn't work well.
9. When Jean came riding up
10. Photography

Discussion Questions

Accept any answer that shows good thinking and a realistic appreciation of the characters and their troubles. Perhaps some of the answers will run like this:

1. (a) Yes. The boys had no business to take over the porch and the yard for work on their invention. (b) No. He should have been glad the boys were trying to invent something and left them alone.
2. (a) No. They should have stayed in one place with all their material. (b) Yes. If they were doing something that might turn out to be an invention, he should have understood and simply asked them to clean up the litter.
3. A window with a picture made of pieces of colored glass
4. In a church; museum; library; mausoleum
5. He thought they would stop experimenting if they saw that someone else had invented what they wanted to invent.
6. (a) No. He might have prevented a very useful invention. (b) Yes. They were making nuisances of themselves, and he thought someone else had already made the invention.
7. (a) The bicycle. Because he spent so many years of his early life in perfecting it. (b) Photography. Because he had probably nearly forgotten about the bicycle when he invented photography.

HOW THEY TRAVELLED THEN AND NOW

(Pages 62-63)

Purposes

To provide a selection that offers the opportunity to practice these skills in reading social studies material: (1) to find the main idea regardless of its position in a paragraph; (2) to note sequence of historical events; (3) to recall historical events in sequence.

Procedure

Follow the procedure that is outlined in the students' book, and give the necessary assistance. Each answer in the activity is worth 12 1/2 points.

Answers

Main Ideas in Paragraphs

1. c 2. b 3. c 4. b 5. c 6. b 7. c 8. b

Activity 1

1. Logs
2. Wheel
3. Stagecoach
4. Better roads
5. Conestoga wagons
6. Steam engine
7. Automobile
8. Air travel

ENERGY IN TRANSPORTATION (Pages 64-65)

Purposes

To provide a selection which offers opportunity: (1) to preview a science article with the use of boldface headings; (2) to identify the "explanation of a process" pattern of writing; (3) to develop careful reading habits in studying such material; (4) to afford practice in interpreting diagrams; (5) to provide practice in recalling steps in a process.

Procedure

Follow the usual procedure. Make sure that students understand the directions at the beginning of the selection. It is advisable for you to discuss with them the instructions between paragraphs.

Answers

Six Different Kinds of Energy

- | | | |
|---------------|----------|-----------|
| 1. Electrical | 3. Light | 5. Heat |
| 2. Chemical | 4. Sound | 6. Atomic |

Activity 1

1. Starting an automobile to move: Turn starting switch to produce electricity from chemical energy in storage battery. Electricity turns motor, pumping gas through carburetor, mixing it with air, sending it into cylinder, and shooting sparks from spark plugs into cylinder. Gas explodes and expands, driving down the piston. The piston turns the shaft connected through gears to the wheels. The wheels turn, making the car move.
2. Making a steam locomotive move: Chemical energy is produced by burning fuel in the firebox against the boiler, which contains water. Steam is produced and great pressure is built up when the water boils. The steam is released through valves into cylinders where it expands to push the piston. The piston turns a shaft connected to the wheels or propeller.

Follow-Up

Discuss with students the possibility of applying what they've learned about reading science material in some such way as this:

"Some sections in your science books have reading material like the sections that you have just been reading. Such science material does not tell you about a problem and how it was solved. It does not give you information about classifications. Nor does it tell you how to carry out an experiment. This kind of science material gives you detailed facts about some topic or detailed steps in a process. You should read this material for the purpose of getting and understanding all of the details. Every sentence is important.

"If the section gives facts about a topic, read it in the same way that you read the section titled "Different Kinds of Energy" and try to repeat the facts to yourself after you have read the section.

"If the section explains a process and gives you a diagram, study the diagram carefully before reading. Look at it again when you read each sentence and find the part you are reading about. After reading the entire section, see if you can trace the process on a diagram which you, yourself, draw. Finally, try to repeat the steps in the process to yourself.

"Science material of the type described above is often the most difficult kind to read. If you follow the plans that you have just learned, you will find that you can easily read and understand even the most difficult material of this type."

HOW FAR, HOW FAST, HOW MUCH?

(Pages 66-67)

Purposes

(1) To provide problems for use in reviewing and practicing reading skills that were initiated previously. (2) To concentrate upon and practice a fifth skill—that of estimating.

Procedure

Read and discuss the instructions with the students. If necessary, demonstrate estimating with two or three problems that you have made up and written on the board.

Have them answer questions for one problem at a time and inspect the results until you are sure that all the students are doing the work correctly.

Answers

Activity 1—Practice in Estimating

1. Rounded numbers: 80 horses
 1,600 miles
Estimated answer: 20 miles
Computed answer: 20.23 miles
Reasonable? Student decides.

2. Rounded numbers: \$4,000,000
 2,000,000
Estimated answer: 2,000,000
Computed answer: 1,844,104
Reasonable? Student decides.

3. Estimated answer: 2,500 lbs
Computed answer: 2,500 lbs
Reasonable? Student decides.

4. Rounded numbers: 50 miles, 30 days
Estimated answer: 1,500 miles
Computed answer: 1,508 miles
Reasonable? Student decides.

Activity 2—Practice in Using All Five Steps

Answers to Questions

Answers to Problems

1. A. The Wright brothers' airplane
- B. How much the airplane weighed without the engine
- C. 745 lbs.; 179 lbs
- D. Subtraction
- E. 500 lbs. (or 550 lbs.)

Reasonable? Student decides.

2. A. A rocket in flight
- B. How much fuel the rocket used
- C. 275 lbs. per second; 48 seconds
- D. Multiplication
- E. 15,000 lbs.

Reasonable? Student decides.

3. A. A single-stage rocket and a two-stage rocket flying
- B. How much higher the two-stage rocket flew than the one-stage rocket
- C. 158 miles; 253 miles
- D. Subtraction
- E. 90 miles

4. A. A rider paying tolls on a turnpike
- B. The average charge for passing each turnpike
- C. \$38.50; 11 turnpikes
- D. Division
- E. \$3.50 (or \$4.00)

Reasonable? Student decides.

1. 566 lbs.

2. 13,200 lbs.

3. 95 miles

4. \$3.50

Additional Problems

5. A seven-passenger, two-engine plane uses 25 gallons of gas per hour when cruising at 180 mph. How many gallons will be used to fly 396 miles at cruising speed?
- What picture do you see?
 - What does the problem ask you to find?
 - What facts does the problem give you to work with?
 - What process should you use?
 - What is your estimated answer?
- Compute the problem and see if your estimated answer was reasonable.
6. Coppi once set a world record by riding his bicycle 45.798 kilometers in one hour. How many miles was this if 1 kilometer = .621 miles?
- What picture do you see?
 - What does the problem ask you to find?
 - What facts does the problem give you to work with?
 - What process should you use?
 - What is your estimated answer?
- Compute the problem and see if your estimated answer was reasonable.

Answers

Answers to Questions

5. a. A seven-passenger, two engine plane cruising
- b. How many gallons of gas will be used to fly 396 miles at cruising speed
- c. 25 gallons of gas per hour; 180 m.p.h.; and 396 miles
- d. (1) Division
(2) Multiplication
- e. 50 gallons
- Reasonable? Student decides.

6. a. Coppi riding his bicycle and setting a world record
- b. How many miles per hour is equal to 45.798 kilometers in one hour
- c. 45.798 milometers in one hour;
1 kilometer = .621 miles
- d. Multiplication
- e. 30 miles per hour
- Reasonable? Student decides.

Answers to Problems

5. 55

6. 28.44 m.p.h.

USING A TABLE OF CONTENTS (Pages 68-69)

Purpose

The purpose of these two pages is to give students practice in using a table of contents.

Procedure

Have students follow through the procedure given in their book. It may be desirable for you to work with them in finding the answers to the first two questions on page 68.

Answers

- | | |
|----------------------------------|-------------|
| 1. a. Travel in Colonial Days | b. Page 45 |
| 2. a. Travel in Early Days | b. Page 1 |
| 3. a. Transportation to the West | b. Page 61 |
| 4. a. Transportation to the West | b. Page 75 |
| 5. a. Transportation to the West | b. Page 81 |
| 6. a. The Horseless Carriage | b. Page 84 |
| 7. a. The Horseless Carriage | b. Page 99 |
| 8. a. The Air Age | b. Page 111 |
| 9. a. The Horseless Carriage | b. Page 90 |
| 10. a. The Air Age | b. Page 132 |

WORKING WITH PARTS OF WORDS (Page 70)

Purposes

To provide practice in (1) identifying root words, prefixes, and suffixes; (2) recognizing the meanings of these elements.

Procedure

The instructions should be followed without difficulty by most students. Give any help to individuals needing assistance.

Answers

Finding Root Words

- | | | | |
|--------------------|----------------------|----------------------|--------------------|
| a. <u>favorite</u> | b. <u>courageous</u> | c. <u>collection</u> | d. <u>mentally</u> |
| e. <u>impolite</u> | f. <u>government</u> | g. <u>reform</u> | h. <u>adjust</u> |

Finding Prefixes

- | | | | |
|----------------------|--------------------|---------------------|--------------------|
| a. <u>disband</u> | b. <u>surround</u> | c. <u>remade</u> | d. <u>enable</u> |
| e. <u>department</u> | f. <u>explain</u> | g. <u>intensely</u> | h. <u>describe</u> |

Finding Suffixes

- | | | | |
|----------------------|---------------------|---------------------|----------------------|
| a. <u>stationary</u> | b. <u>favorable</u> | c. <u>adjusting</u> | d. <u>collection</u> |
| e. <u>tinkering</u> | f. <u>moisture</u> | g. <u>lighter</u> | h. <u>studying</u> |

Changing Meanings with a Prefix

- | | |
|--|---|
| transpose: to cross-position,
interchange | transform: to change the shape of,
reshape |
|--|---|

Changing Meanings with a Suffix

- | | |
|--|--|
| movement: the result or the process
of moving | statement: the result or process of
stating |
|--|--|

WORKING WITH MATHEMATICS WORDS (Page 71)

Purpose

To familiarize students with the pronunciations and meanings of several special words common to high school mathematics texts.

Procedure

Follow the usual procedure.

Answers

- | | | |
|-----------|------------|---------------------------------------|
| 1. digit | 5. budget | 8. Decimal |
| 2. cipher | 6. account | 9. Numerator; denominator |
| 3. amount | 7. balance | 10. Multiplier; product; multiplicand |
| 4. area | | 11. Divisor; quotient; dividend |

WORKING WITH SOCIAL STUDIES WORDS
(Page 72)

Purpose

To familiarize students with the pronunciations and meanings of special words common in their social studies books.

Procedure

Follow the usual procedure.

Answers

- | | | |
|-----------------|---------------------|----------------|
| 1. century | 6. citizen | 11. control |
| 2. conservation | 7. House of Commons | 12. parliament |
| 3. basin | 8. communication | 13. anthracite |
| 4. ancestor | 9. consul | 14. bituminous |
| 5. Senate | 10. ancient | |

WORKING WITH MORE NEW WORDS IN UNIT SIX
(Page 73)

Purposes

(1) To acquaint students with the pronunciations and meanings of several new words appearing in Unit Six; (2) to give them experience in applying skills previously learned in attacking new words independently.

Procedure

Follow the usual procedure.

Answers

- | | | |
|---------------|-------------------|-----------------|
| 1. hesitate | 7. saturated | 13. represent |
| 2. hygroscope | 8. meteorological | 14. comparison |
| 3. severe | 9. isobars | 15. department |
| 4. prepare | 10. precipitation | 16. conclusion |
| 5. prophet | 11. device | 17. continental |
| 6. phrase | 12. telegraph | |

Procedures for Teaching

UNIT SIX

WINDS, RAIN, AND SUNSHINE

Weather was chosen as the topic of this unit because it offers possibilities of providing interesting reading material for high school students, and because it is a topic commonly treated in textbooks at this level.

WEATHER-WISE (Pages 74-75)

Purposes

(1) To provide an interesting narrative which students will enjoy reading; (2) to develop appreciation by providing opportunities to recognize and understand factual information on which a narrative is based, to draw inferences, to decide upon the emotion the reader would have felt if he had been in a character's place, to sense the cause of a character's behavior; (3) to check literal comprehension; (4) to give the student practice in rapid reading; (5) to offer leads to the subject matter selections that follow.

Procedure

Follow the usual procedure. Urge students to force their speed and try to beat their reading scores made while reading "Jean's Little Hobby."

Answers

Comprehension Questions

- | | | |
|--|---|---------------|
| 1. b. Calgary | 2. b. a weather balloon | 3. b. Germany |
| 4. c. They were not adjusted to work in Alberta. | | |
| 5. c. a device for showing changes in moisture | 6. b. catgut | |
| 7. a. It shortens and makes the platforms move. | 8. b. in Toronto | |
| 9. c. a monk with a hood that came on and off | 10. c. He couldn't figure out the measurements. | |

Discussion Questions

Accept any answer that shows good thinking and understanding. Some possible answers are given below.

1. Excited. thrilled. surprised.
2. Moisture in the air; wind direction; wind velocity; temperature.
3. (a) She didn't want to impose on him. (b) She was afraid he didn't know how to fix it and might ruin it.
4. (a) He could use it as a model to make his own. (b) He would enjoy tinkering with it because of his weather interests.
5. (a) Scientist. (b) weather prophet. 6. Student's own choice.
7. (a) The flowers. Chemical makes the paper change colors.
(b) Weather house. The catgut strings contract and expand.
(c) The monk with a hood. Probably the hood is controlled by catgut strings.
(d) Paper butterfly. Wings are probably made of some material that contracts and expands with differences in the amount of moisture in the air.
(e) Man with umbrella. The position of the umbrella is controlled by catgut strings.
(f) Frog. The frog movements are controlled by catgut strings.

WEATHER (Pages 76-77)

Purposes

This social studies article is provided for the purpose of offering practice: (1) in recognizing and interpreting symbols on weather maps; (2) in reading social studies material for factual details; (3) in associating dates with events in sequence; (4) in organizing social studies information.

Procedure

Have students read the first two sections under "Weather Maps." Then give them some oral practice in finding the different symbols on the map and interpreting them. Following this development they should be able to do the remainder of the map work independently.

In working with the selection titled "How Did Our Weather Forecasting Services Develop?" on page 77, amplify by explaining the importance of learning to read for factual details. If necessary, supervise students during this first direct practice in "pulling out" and classifying details.

Answers

Making the Symbols

- | | | |
|--|--|--|
| 1. cold front
 | 2. warm front
 | 3. high pressure
 |
| 4. showers
 | 5. clear
 | 6. rain
 |
| 7. partly cloudy
 | 8. snow
 | 9. cloudy
 |
| 10. fog
 | 11. isobars
 | 12. low pressure
 |
| 13. calm
 | 14. west wind
(5 m.p.h.)
 | 15. east wind
(5 m.p.h.)
 |
| 16. area of precipitation
 | | |

Reading the Map

- | | | | |
|---|---------------------|--------------|--------|
| 1. 32° | 2. 14° | 3. -15° | 4. 30° |
| 5. a. Toronto - cloudy; b. Edmonton - partly cloudy; c. Moncton - clear
d. Montreal - partly cloudy; e. Regina - partly cloudy; f. Prince George - clear; g. McMurray - cloudy; h. Fort William - partly cloudy. | | | |
| 6. Grande Prairie, Edmonton, Saskatoon. | | | |
| 7. Winnipeg, Fargo. | 8. Ottawa, McMurray | 9. Churchill | |
| 10. Dawson City, Kamloops, Whitehorse, Prince George, Norman Wells, Inuvik. | | | |
| 11. Cranbrook, 9-14 miles per hour; Lethbridge, 26-31 miles per hour; Port Harrison, 32-37 miles per hour. | | | |
| 12. Edmonton, Saskatoon | | 13. Victoria | |
| 14. colder | | 15. warmer | |

How Did Our Weather Forecasting Services Develop?

<u>Development of Weather Services</u>	<u>Date</u>
1. first weather observations taken by instruments	1700's
2. first permanent observatory established in Toronto	1839
3. Meteorological Service of Canada established by the Dominion Government	1873
4. Demands for weather information by the Air Force and commercial airlines caused sensational growth in weather services	1930's to 1940's
5. Now more than 1600 weather observing stations send information to twelve main forecasting offices	1960's

WHY WEATHER CHANGES

(Pages 78-79)

Purposes

This selection is provided to offer opportunities to develop the ability: (1) to sense cause-and-effect relationships in science text; (2) to grasp details related to these causes and effects; (3) to recall details; (4) to interpret a diagram.

Procedure

After the students have read the instructions, conduct any further discussion that is necessary in helping them to sense causes and their effects in science material.

Answers

Activity 1-Causes and Effects

<u>Causes</u>	<u>Effects</u>
1. Changes in temperature	a. transfers heat to the air.
2. As the earth spins	b. creates a force called <u>pressure</u> .
3. The pull of the earth	c. heats the earth.
4. The motion of the earth	d. govern the speed at which air moves.
5. The different movements of air	e. make the air move.
6. Weight	f. it pulls the air around it.
7. The sun	g. makes the air curve.
8. Cold areas and warm areas	h. changes the path in which air moves.
9. The earth	i. cause the weather to change.
10. Warm air	j. soaks up water vapor.

Activity 2-True-False Statements

- | | | | | |
|--------|--------|--------|-------|---------|
| 1. Yes | 2. Yes | 3. No | 4. No | 5. Yes |
| 6. No | 7. No | 8. Yes | 9. No | 10. Yes |

Carry-Over

Space in the students' book does not permit instructions for carrying over the important skill of sensing causes and effects. The teacher should emphasize the importance of applying this skill when studying in other textbooks in some such way as this:

"When studying in your science books, look each chapter over carefully before you read it to see if it has to do chiefly with causes and effects. If it does, find all of the sentences that state causes and effects. These are the main ideas in this kind of writing. After finding the main causes and effects, then read to find the smaller ideas that give more information about each cause and effect.

You will find the cause-and-effect type of article more often in your social studies, history, and geography books than you will in science. Look for such articles in these books and, in reading them, use the same plan that you used in working with the science article in this unit."

READING GRAPHS (pages 80-81)

Purposes

To give practice in using the special skills needed in reading the following types of graphs: (1) the bar graph, (2) the broken-line graph, and (3) the circle graph.

Procedure

Have the students read the directions and carry them out. Give the students any assistance that is necessary.

A good follow-up activity would be to have each student bring in on the following day one or more graphs of the three types studied. These may be clipped from newspapers and magazines. Each student should be asked to interpret his graph or graphs to the class.

Answers

The Bar Graph

- | | | |
|--------------------|-----------------|------------------|
| 1. 43° | 2. Tuesday, 16° | 3. Saturday, 50° |
| 4. Monday, Tuesday | | 5. 1° |

Broken-Line Graph

- | | | |
|------------------------|-------------------------|-----------------|
| 1. October, 5.2 inches | 2. February, 1.8 inches | 3. a. February; |
| b. March; c. January; | d. April | 4. May |
| | | 5. 3.4 inches |

Circle Graph

- | | | |
|------------------------|------------------------|----------------------------|
| 1. Barometer | 2. Dew point indicator | 3. Thermometer, anemometer |
| 4. Dew point indicator | 5. \$3.00 | 6. 1/2 |

USING AN INDEX (Pages 82-83)

Purposes

(1) To give students practice in using the major topics and subtopics listed in an index to locate specific information in a book; (2) to give students experience in looking under topics other than the major topic in finding related subtopics.

Procedure

Follow the procedure given to the students, providing any necessary assistance. A good follow-up activity would be to have students use a similar procedure in finding information about weather by using the index in some other science book which they have at hand.

Answers

- | | |
|--------------------------|-------------------------------|
| 1. d. 247-263 | 10. b. 257, 260 |
| 2. b. 248-249 | 11. d. toy weather prophets |
| 3. c. 248, 253-256 | 12. c. 136 |
| 4. c. 255-256, 259 | 13. d. at the end of the book |
| 5. d. 259-260 | 14. a. 137-138 |
| 6. c. 253-254 | 15. c. 251 |
| 7. b. value of forecasts | 16. b. 31, 34, 249-250 |
| 8. b. weather stations | 17. c. 255 |
| 9. d. 260-262 | 18. b. 138-139 |

WORKING WITH SOCIAL STUDIES WORDS (Page 84)

Purposes

(1) To familiarize students with the pronunciations and special meanings of words widely used in social studies texts; (2) to give them opportunities to apply word attack techniques previously learned.

Procedure

Follow the same procedure as previously used in working with vocabulary pages.

Answers

- | | | |
|------------------|-----------------|---------------------|
| 1. pioneers | 6. colonists | 9. occupation |
| 2. frontier | 7. independence | 10. interdependence |
| 3. expansion | 8. inhabitant | 11. political |
| 4. manufacturing | | 12. population |
| 5. production | | 13. continental |

WORKING WITH SCIENCE WORDS (Page 85)

Purposes

(1) To familiarize students with the pronunciations and specialized meanings of several words common to science texts; (2) to give students an opportunity to apply word attack techniques previously learned.

Procedure

Follow the usual procedure.

Answers

- | | | | |
|---------------|---------------|----------------|------------------|
| 1. nitrogen | 5. solution | 9. humidity | 13. phosphorus |
| 2. mercury | 6. microscope | 10. morphine | 14. perspiration |
| 3. penicillin | 7. iodine | 11. riboflavin | 15. niacin |
| 4. dissolve | 8. element | 12. thiamine | 16. oxidize |

WORKING WITH ROOT WORDS, PREFIXES, AND SUFFIXES (Page 86)

Purposes

(1) To give practice in recognizing root words, prefixes, and suffixes in words; (2) to give practice in noting changes in meaning made by the addition of the prefix un and the suffix ist to words.

Procedure

Follow the procedure given in the students' book. If any of the students still have difficulty in discriminating between prefixes and suffixes, supplement with the necessary explanations.

Answers

Finding Separate Words in Compound Words

- | | | |
|---------------|----------------|--------------|
| a. water/way | b. strong/hold | c. high/land |
| d. French/men | e. bag/pipes | f. hot/head |

Finding Root Words

- a. freedom b. travellers c. wooden d. sternly e. reserve f. boldest
g. classification h. building i. American j. almost k. happened

Finding Prefixes

- a. belong b. already c. prepay d. disbelief e. indebtedness f. return

Finding Suffixes

- a. continental b. different c. careful d. action e. fatty f. Scottish

Changing Meanings with Prefixes

- | | | |
|---------------|--------------|----------------|
| 1. happy | unhappy | not happy |
| 2. successful | unsuccessful | not successful |
| 3. willing | unwilling | not willing |
| 4. true | untrue | not true |
| 5. wise | unwise | not wise |
| 6. fair | unfair | not fair |

Changing Meanings with Suffixes

- | | | |
|------------|-------------------|-------------------------------------|
| 1. art | <u>artist</u> | One skilled in art |
| 2. organ | <u>organist</u> | One who plays the organ |
| 3. balloon | <u>balloonist</u> | One who goes up in a balloon |
| 4. solo | <u>soloist</u> | One who performs alone |
| 5. harp | <u>harpist</u> | One who plays a harp |
| 6. humor | <u>humorist</u> | One who displays humor |
| 7. special | <u>specialist</u> | One skilled in a certain field |
| 8. journal | <u>journalist</u> | One who writes for a public journal |

WORKING WITH NEW WORDS WHICH YOU
WILL MEET IN UNIT SEVEN
(Page 87)

Purposes

(1) To prepare students for the next unit by acquainting them with the pronunciations and meanings of new words they will meet in this unit; (2) to give students the opportunity to apply word attack techniques they have learned to the pronunciation of new words.

Procedure

Use the same procedure as previously used with pages of this type.

Answers

- | | | |
|----------------|--------------|-------------------------|
| 1. portmanteau | 6. editorial | 11. Legislative Council |
| 2. councillor | 7. ruffians | 12. starch |
| 3. welfare | 8. abuse | 13. sue |
| 4. apprentices | 9. redress | 14. type |
| 5. exile | 10. emerge | 15. bribe |
| 16. reform | | |

Procedures for Teaching
UNIT SEVEN

REBELLIOUS YEARS

The topic for this unit was chosen because it is a topic which occurs with high frequency in high school courses in social studies, and because it offers an opportunity for experience in using skills needed in reading related material in several different subject fields.

THE LITTLE REBEL
(Pages 88-89)

Purposes

(1) To provide an intriguing story developed in an authentic historical setting; (2) to develop appreciation by giving opportunities to draw inferences in regard to deeper meanings, to recognize factual background on which a narrative is based, to decide upon the emotion the reader would have felt if he had been the character, to decide upon the action the reader would have taken if he had been in a character's place, to sense the cause of a character's behavior; (3) to check literal comprehension; (4) to afford practice in timed reading; (5) to offer leads to social studies, science, and mathematics selections that follow.

Procedure

Follow the usual procedure suggested for reading narratives in this book.

Urge students to read as fast as they can. Be sure they compare their speed and comprehension scores made in reading this story with records made in reading preceding stories.

Answers

Comprehension Questions

- | | |
|-------------------------------------|-------------------------|
| 1. c. Lake Ontario | 6. c. the ruling class |
| 2. b. Mackenzie | 7. b. They were angry |
| 3. b. They felt sorry for Mackenzie | 8. a. liking |
| 4. b. the type | 9. c. a reformer |
| 5. c. a newspaper | 10. b. friendly to some |

Discussion Questions

Any answer should be accepted if it shows good thinking and an understanding of the character's emotions and actions. Those most frequently given may be:

1. Yes. (a) He tried to help the people. (b). He showed determination.

2. (a). He was afraid of the violence and destruction. (b). He wanted to get help to stop the raid.

3. Yes. He went to meet him when he knew that misfortune had come to Mr. Mackenzie.

4. He did not favor the ruling class. (a). He did not defend this class when he was told of the raid. (b). He did not criticize Mr. Mackenzie's attacks on the ruling class.

5. Yes. (a). The publicity gained through the raid and the lawsuit would make more people aware that Mr. Mackenzie was trying to help them. (b). People usually take the side of one who has been unjustly treated by those in power.

6. (a). He was convinced that he had just cause for complaint. (b). The raiders had committed an illegal act.

7. David liked Mr. Mackenzie. He considered him a friend. (a). He wanted the onlookers to stop the destruction of the shop. (b). He ran to greet Mr. Mackenzie as soon as he stepped down from the stagecoach.

8. Yes. (a). This was the first time that members of the ruling class had destroyed property belonging to Mr. Mackenzie. (b). Most people - even dishonest ones - are usually more disturbed by accusations of dishonesty than by accusations of other misdeeds.

WHY WAS THE GOVERNMENT CRITICIZED?

(Pages 90-91)

Purposes

To provide a social studies selection that offers the opportunity for practice in using skills needed in reading material in this subject; (1) previewing with the use of boldface headings to identify events in order; (2) reading a diagram to draw a conclusion; (3) developing the ability to read social studies material rapidly; (4) understanding vocabulary accurately; (5) getting facts accurately.

Procedure

Have students read the introduction and follow the directions for reading the selection as usual.

This is the first time in this book that students have been asked to read a social studies article rapidly. It seems desirable to establish techniques of rapid reading in connection with narratives before asking students to apply speed to the reading of factual material

After they have finished reading this timed selection, have them prepare their speed and comprehension scores made while reading "The Little Rebel." If a comprehension score is high, the rate normally will be slower than when reading the narrative. Assure them that a slower rate is expected in social studies, but that they can increase their rate in this field. Let individual students decide whether they should work harder on speed, or comprehension, or both.

Answers

Activity 1-Understanding Vocabulary Accurately

1. redress - a setting right of a wrong.
2. have their interests at heart - to want to do what is best for them; to be concerned for their well-being.
3. abuses - improper treatment; corrupt practices.
4. councillors - members of a council who advised the governor on matters of state.
5. assembly - a gathering of elected members to discuss what the country needs and to help make the laws.
6. dealings - business transactions such as buying and selling; obtaining grants of land.
7. widespread - existing in a large part of the province; prevalent.
8. champion - one who acts and speaks in behalf of the people.
9. elected members - people chosen by eligible voters to represent them in the government of the province.
10. appointed - named or chosen; not elected.

Activity 2 -Getting Facts Accurately

1. Diagram 1.
2. The members of the executive and legislative councils were not elected by the people. They were appointed for life. Therefore, they did not need to please the people.
3. Any four of these six are acceptable.

- (a). Government jobs and contracts usually were given to councillors or their friends or relatives.
 - (b). The best land was often given to those who paid money to a government official.
 - (c). Members of other churches thought it unfair that large grants of land were set aside for the Anglican Church.
 - (d). Government officials and their friends were given large grants of land.
 - (e). The large tracts of uncleared land isolated the settlements and prevented the building of roads, schools, churches, and mills.
 - (f). People who complained about abuses were declared disloyal and could lose their property or be imprisoned.
4. (a). He reported and attacked them in his newspaper. (b) Later he organized and led an armed rebellion.
 5. The main reform wanted was that the governor's councillors be chosen from the elected members of the assembly.

FOODS FOR YOUR NEEDS (Pages 92-93)

Purposes

To provide a science article that gives students practice in using the following reading skills: (1) previewing boldface headings to find names of classifications; (2) working with the classification pattern of writing in science; (3) reading to find major classifications and their particular characteristics; (4) organizing science material in a chart; (5) applying science facts to personal living.

Procedure

Have the students follow the procedures suggested in their books.

Answers

Activity 1-Classifying Food

- | | | | |
|-------------|------------------|------------------|-------------|
| 1. Proteins | 2. Carbohydrates | 3. Fats and oils | 4. Minerals |
|-------------|------------------|------------------|-------------|

Activity 2-Making a Chart

<u>Class of Food</u>	<u>Use</u>	<u>Where Found</u>
1. Proteins	Growth and repair of cells	Meats, milk, dairy products, eggs, poultry, fish, nuts, peas, beans, lentils, whole-grain cereals
2. Carbohydrates	Give energy	Sugars, starches, bread, cake, cereals, potatoes, fruit, vegetables
3. Fats and oils	Provide heat and energy	Fat meats, butter, margarine, cooking oils
4. Minerals	Needed for good health	Green and yellow vegetables, sea food, salt

Activity 3-Choosing Good Meals

Breakfast: A. It is better valanced and represents more classes of food.

Lunch: B. It is better balanced and represents all classes of food.

HOW MUCH DOES IT COST TO EAT? (Pages 94-95)

Purpose

To give students practice in using all skills suggested previously for reading problems.

Procedure

Follow the usual procedure for such pages.

Answers

- Quarts of milk in 1913; quarts of milk today
 - How much the price of milk rose between 1913 and 1953
 - 8.9 cents, 23.4 cents
 - Subtraction
 - 14 cents
 - (Computation done on a separate piece of paper.)
 - 14.5 cents
 - Student decides.
- Dinner being served by a pioneer's wife
 - How many times was dinner served in three years at the pioneer's home
 - One a day; 3 years of 365 days
 - Multiplication

- e. 1200 times
 - f. (Computation done on a separate piece of paper.)
 - g. 1095 times
 - h. Student decides.
- 3.
- a. People eating dinner at Montgomery's Tavern
 - b. How many dinners were served in a year
 - c. 23 people daily; 1 year (365 days)
 - d. Multiplication
 - e. 8,000 dinners
 - f. (Computation done on a separate piece of paper.)
 - g. 8,395 dinners
 - h. Student decides
- 4.
- a. Bob ordering lunch
 - b. How many energy units Bob will get from the total lunch
 - c. 76, 40, 325, 165, and 148 energy units
 - d. Addition
 - e. 800 energy units ($100 + 50 + 350 + 150 + 150$)
 - f. (Computation done on a separate piece of paper.)
 - g. 754 energy units
 - h. Student decides.
- 5.
- a. Bob lunching without ice cream
 - b. How many energy units Bob will get from this meal
 - c. 76, 40, 325, and 165 energy units (or, 754 and 148 units)
 - d. Addition (or, Subtraction)
 - e. 650 energy units (or, 600 units)
 - f. (Computation done on a separate piece of paper and compared with estimate.)
- Answer: 606 energy units
- 6.
- a. Bob eating the whole lunch
 - b. How many Vitamin A units Bob will take into his body
 - c. 120; 7,450; 45; 350; and 415 Vitamin A units
 - d. Addition
 - e. 8400 Vitamin A units ($100 + 7500 + 400 + 400$)
 - f. (Computation done on a separate piece of paper.)
 - g. 8,380
 - h. Student decides.
- 7.
- a. 87 children eating lunch
 - b. How much money the cafeteria would take in
 - c. 87 children; \$.41
 - d. Multiplication
 - e. \$36.00
 - f. (Computation done on a separate piece of paper.)
 - g. \$35.67
8. 15 5/8¢ or 16¢

WORKING WITH MATHEMATICS WORDS

(Page 96)

Purpose

To familiarize students with the pronunciations and special meanings of several words that occur with high frequency in high school mathematics texts.

Procedure

Follow the usual procedure for pages of this kind.

Answers

- | | | | |
|----------------|------------------|--------------|-----------------|
| 1. column | 5. per capita | 9. receipt | 13. volume |
| 2. endorsed | 6. gross | 10. total | 14. deposit |
| 3. equilateral | 7. approximately | 11. linear | 15. expenditure |
| 4. meter | 8. cube | 12. parallel | |

WORKING WITH SCIENCE WORDS

(Page 97)

Purpose

To familiarize students with the pronunciations and special meanings of some of the high-frequency words in science textbooks.

Procedure

Follow the procedure previously suggested for pages of this kind.

Answers

- | | | |
|-----------------|--------------|----------------|
| 1. capillaries | 6. protozoa | 11. protoplasm |
| 2. concentrated | 7. amoeba | 12. aluminum |
| 3. caffeine | 8. chlorine | 13. circulate |
| 4. pellagra | 9. astronomy | 14. nicotine |
| 5. sedimentary | 10. nucleus | |

WORKING WITH PREFIXES AND SUFFIXES

(Page 98)

Purposes

(1) To teach the meaning of six common prefixes and eight common suffixes; (2) to give students experience in attaching the right prefix or suffix to a root word in order to make a meaningful word.

Procedure

Students should have no difficulty in following the directions in their books. If necessary, however, supplement the explanation of meanings and supervise the activities.

Answers

Meanings of Six Common Prefixes

- | | | | |
|---------------------|---------------------|--------------|------------|
| A. 1. unkind | not kind | | |
| 2. mistreat | to treat wrongly | | |
| 3. transatlantic | across the Atlantic | | |
| 4. underfed | not fed enough | | |
| 5. overwork | to work too much | | |
| 6. outlaw | beyond the law | | |
| B. a. overbold | b. unable | c. undersold | d. misdeed |
| e. transcontinental | f. overview | | |

Meanings of Eight Common Suffixes

- | | |
|---------------|-----------------------------|
| A. 1. useless | without use |
| 2. harden | to make hard |
| 3. farmer | one who farms |
| 4. violinist | one who plays the violin |
| 5. rapidly | in a rapid manner |
| 6. movement | result or process of moving |

7. kindness

state of being kind

8. basketful

a full basket, filled basket

B. a. planter

b. harpist

c. fatherless

d. wooden

e. closely

f. sweetness

g. pailful

h. government

WORKING WITH NEW WORDS WHICH YOU
WILL MEET IN UNIT EIGHT
(Page 99)

Purposes

(1) To prepare students for reading the next unit by familiarizing them with the pronunciations and meanings of new words in that unit; (2) to provide the opportunity to make use of word attack techniques previously taught.

Procedure

Follow the procedure previously suggested for similar pages.

Answers

1. prolific

6. graft

11. horticulture

2. commerce

7. rotation

12. quartz

3. erosion

8. hybrid

13. fertile

4. texture

9. delicacies

14. culinary

5. illumine

10. scion

15. humus

16. tolerate

Procedures for Teaching UNIT EIGHT

APPLES GALORE!

The topic of growing and selling apples was selected for this unit because it occurs frequently in high school social studies books and because it is a topic that offers leads to other subject areas.

THE STORY OF THE "MAC REDS" (Pages 100-101)

Purposes

(1) To provide an interesting story about Alan McIntosh; (2) to offer opportunities to appreciate the story through such activities as visualizing word pictures, drawing inferences in regard to deeper meanings, sensing the cause of a character's behavior, recognizing factual background on which a story is based; (3) to check literal comprehension; (4) to give students more practice in timed reading; (5) to afford leads into social studies, science, and mathematics selections.

Procedure

Invite the students to relate any experiences they have had on a fruit farm. Ask them to read the story in their book to find out how this story differs from the experiences related by class members.

Urge them to read rapidly and to compare their speed and comprehension scores with preceding records.

Answers

Giving Reasons for Your Answers

1. a. on a farm in Dundela, Eastern Ontario
b. Close to the St. Lawrence River which could be used to transport apples to the markets.
Close to a new railway which linked the farm area with markets in the larger cities.
Growing conditions for apples were favorable.
2. a. The apples were red, hard, and shiny on the outside with white crisp meat inside.
b. He could not grow new apple trees which would produce fruit like the original McIntosh apple tree.

- | | |
|----------------------------------|---|
| c. Alan McIntosh and his father | Persistent study and effort to solve their problem. |
| The farm helper | Taught Alan how to bud and graft. |
| The writers of certain books | Revealed to the McIntoshes that they needed to know how to graft. |
| Neighbors of the McIntosh family | Encouragement |
| Farmers at country fairs | Willingness to learn grafting and budding and thus confirm the solution of the problem. |
3. a. He studied and worked until he found the answer to his problem.
- b. He wanted many other people to share in the wonderful fruit from his apple tree.
He gave a hired farm helper time to rest with him after a wood sawing session.
He showed other farmers how to graft and bud so they could have McIntosh apple orchards too.
- c. Sentences which include some of the following characteristics would be acceptable: kind, considerate, hard-working, persistent, generous.
4. a. Confederation.
- b. They provided the opportunity for the farmers to get together and discuss their problems and benefit from each other's experiences.
5. a. after a reasonable period of time.
- b. at twilight.

THE KING OF FRUITS (Pages 102-103)

Purposes

This selection gives students an opportunity to practice the use of the following skills in reading social studies material: (1) grasping details; (2) recalling details; (3) formulating the topic of a paragraph; (4) taking notes; (5) finding places on a map.

Procedure

Follow the procedure given on the pages in the students' book. You may have to help them to make up titles for one or two paragraphs in addition to the first one.

Answers

Paragraph Titles

1. World Trade in Fruits
2. History of Apple Growing.
3. The Conditions for Growing Apples.
4. Types of Apples.
5. Apple Growing Areas of Canada.

Activity 1 - Finding Places on the Map

1. a. The following places should be named: Vancouver, Penticton, Niagara Falls, Toronto, Montreal, Quebec, Halifax, St. John's (Newfoundland).
- b. The following areas for apple growing should be marked:
 - (1). Annapolis Valley - Nova Scotia
 - (2). St. John Valley and Westmorland County, New Brunswick
 - (3). Along the north shore of the St. Lawrence outside Montreal and Quebec.
 - (4) Niagara Peninsula and areas near the Great Lakes as far west as Georgian Bay.
 - (5) Okanagan and Fraser Valleys, Kootenay and Arrow Lakes, Vancouver Island, British Columbia.
- c. Ontario apples shipped from Toronto; Okanagan apples shipped from Vancouver; apples from the Annapolis Valley shipped from Halifax.

CONDITIONS FOR GROWING APPLE TREES
(Pages 104-105)

Purposes

This selection provides an opportunity for practicing the following skills in reading science material: (1) grasping and recalling details in factual material; (2) converting boldface headings into questions, then reading to answer the questions; (3) identifying and reading cause-and-effect material; (4) identifying and reading classification material; (5) classifying information; (6) recalling science facts; (7) reading science material under timed conditions.

Procedure

Follow the procedure in the students' book.

Answers

Possible Titles After Converting to Questions

What Forces Change Rocks to Soil?

How Are Soils Classified?

What Are Glacial Deposits?

How Can We Conserve Soil?

Scoring: Since students read this selection under timed conditions, a score of their comprehension should be obtained. Activities I, II, and III provide for a total of 25 responses, each of which is worth 4 points; if all questions are answered correctly they will yield a score of 100.

However, a more objective and more easily scored comprehension test is given under "Comprehension Questions." It is advisable to use this in enabling students to arrive at a comprehension score to write in their books on page 105.

Activity 1—Answering Questions

1. The soil was rich.
2. 9 inches; 6 inches

Activity 2—Recalling Forces

A. Weathering (any seven of the following):

1. Natural forces: gravity, wind, running water, freezing water, glaciers, changes in temperature
2. Chemical forces: oxygen, carbon dioxide, water

B. Erosion (any three): moving air (winds), moving water (waves, currents, rivers), moving ice (glaciers)

Activity 3—Classifying Soils

<u>Soil</u>	<u>What Made of</u>	<u>Texture</u>	<u>Water-Holding</u>
1. Sandy	loosely packed quartz	coarse	not well
2. Clay	closely packed feldspar	fine	holds it well but hardens
3. Loam	sand, clay, and humus	about right for farming	holds enough water for farming

Comprehension Questions

The teacher may write the following questions on the blackboard or dictate them to the students. A score of 10 should be allowed for each correct answer.

1. What is the name given to the process of breaking up rock by natural action?
2. What is the name of the process by which rocks are not only broken into pieces but are also carried away?
3. What kind of soil is made up of loosely packed, large, hard grains of quartz?
4. What kind of soil is made up of closely packed, small particles of smooth feldspar rock?
5. What name is given to the decaying remains of plants and animals in the soil?

6. What is mixed together in loam?
7. What kind of soil is best for farming?
8. What deposited the deep, fertile soil of Ontario?
9. Is the topsoil in our country increasing or decreasing?
10. What is "rotation of crops?"

Answers

1. Weathering 2. Erosion 3. Sand 4. Clay 5. Humus
6. Sand, clay, humus 7. Loam 8. Glaciers 9. Decreasing
10. Planting different crops in a field each year for several years

MILES TRAMPED, SEEDS PLANTED (Pages 106-107)

Purposes

The materials on these pages provide practice in: (1) reading directions and answering questions in connection with mathematics problems; (2) measuring mileage on a map; (3) plotting a diagram to a scale; (4) interpreting a diagram of a plot.

Procedure

Reinforce, through discussion, the importance and techniques of the careful reading of directions, and of directions interspersed with questions. Provide any supervision that is necessary in carrying out the directions.

Answers

Finding Distances on a Map

1.
 - a. ruler
 - b. Prescott and Brockville
 - c. the number of sixteenths of an inch between the two towns
 - d. the number of miles that the measured distance represents
 - e. multiplication
 - f. 15 miles
2. 60 miles

3. a. Addition

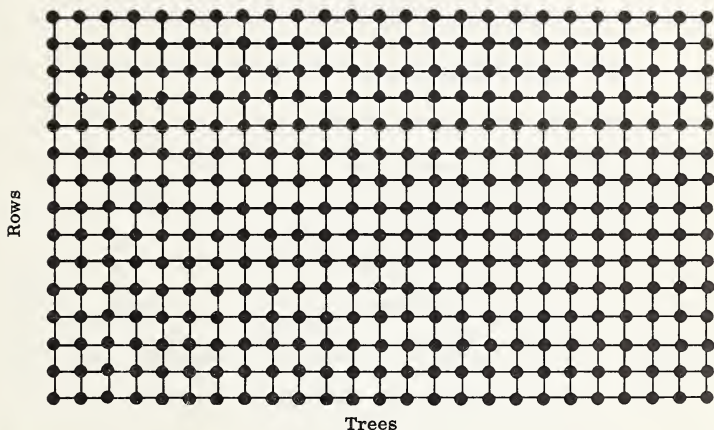
b. Multiplication

Answer: approximately 160-165 miles

4. Answer: approximately 105-110 miles

Sketching Plots for Apple Trees

Plot 1



Answers

i. 28 feet

j. 48 feet

k. 1344 square feet

l. 149.3 square yards

m. Parallelogram

HOW TO FIND THINGS IN DICTIONARIES AND ENCYCLOPEDIAS (Page 108)

Purposes

This page is designed to improve the following skills in locating information: (1) using an alphabetical index and using dictionary guide words; (2) using the index letters on the shelf-backs of encyclopedias in locating the volume containing information on a given topic.

Procedure

If possible, follow this page with practice in doing the same type of exercises with real dictionaries and with a set of encyclopedias.

Answers

Improving Your Dictionary Skills

1. a b c d e f g h i j k l m n o p q r s t u v w x y z
2. 26
3. a b c d e f g h i j k l m
4. P.204: bagpipe, baggy, Bahama
5. P. 1502: margarine, margay, margin
6. P. 1926: positive, possess, posse
7. P. 2852: vitamin vital, vitreous

Improving Your Encyclopedia Skills

a. soil	13	f. navigation	10	j. weather	15
b. England	5	g. fish	6	k. soap	13
c. forests	6	h. oranges	11	l. boats	2
d. diet	4	i. zinc	16	m. Robert Gourlay	7
e. shells	13			n. Alan McIntosh	10

Additional Activity

If the students need additional practice in the use of an alphabetical index, the following exercises may be of value.

1. What fraction of the alphabet, roughly, would six letters be? _____
2. What letter comes after t? ____ Before h? ____ After m? ____
3. Is f nearer the beginning or the end of the alphabet? _____
4. What is the sixth letter in the alphabet? _____
5. Write Before or After
 - (a) Does m come before or after l? _____

- (b) Does t come before or after u? _____
- (c) Does k come before or after r? _____
- (d) Does s come before or after r? _____
- (e) Does e come before or after f? _____
- (f) Does n come before or after o? _____
- (g) Does j come before or after i? _____
- (h) Does r come before or after o? _____
- (i) Does l come before or after k? _____
- (j) Does g come before or after f? _____

6. Write in the blanks the letters as they come in the alphabet:

- (a) _____ t (d) a _____ c (h) i _____ k
- (b) _____ d _____ (e) g _____ (i) _____ m _____
- (c) w _____ (f) n _____ p (j) _____ g
- (g) _____ v _____

Answers

1. One quarter 2. u, g, n 3. The beginning 4. f
5. (a) After (b) Before (c) Before (d) After (e) Before (f) Before
- (g) After (h) After (i) After (j) After
6. (a) r s t (d) a b c (h) i j k
- (b) c d e (e) g h i (i) l m n
- (c) w x y (f) n o p (j) e f g
- (g) u v w

HOW TO FIND THINGS IN A LIBRARY

(Page 109)

Purposes

To give practice on the following skills in locating information in a card catalog: (1) locating topics; (2) reading the reference cards.

Procedure

If students need more practice on these skills it would be a good idea to take them to a library and provide additional activities like those on this page.

Answers

a. lumber	<u>J - L</u>	b. desert	<u>Ci - D</u>	c. conservation	<u>Ci - D</u>
d. furs	<u>E - F</u>	e. Panama	<u>N - Ph</u>	f. glaciers	<u>G - Ha</u>
g. humus	<u>He - I</u>	h. weather	<u>V - Z</u>	i. sugar	<u>St - T</u>
j. Robert Gourlay	<u>G - Ha</u>	k. W. L. Mackenzie	<u>M</u>		
l. John Simcoe	<u>S - Sq</u>	m. Alan McIntosh	<u>M</u>		

Reading Cards in the Card Catalog

Title Card

973.385 Turncoats, traitors, and heroes.

Bakeless, John

Turncoats, traitors, and heroes.

New York, Morrow and Company, 1955.

Author Card

973.385 Bakeless, John

Turncoats, traitors, and heroes

New York, Morrow and Company, 1955.

Additional Activity

Students may write the references below and others supplied by the teacher as each would appear: (a) on a title card; (b) on an author card.

1. The American Revolution, by Bruce Bliven Jr. Published in New York by Random House in 1958. Library number: 970.

2. Poems of Today, by Annie E. Moore. Published in New York by E. M. Hale, 1936. Library number: 781.

DRAWING CONCLUSIONS

(Page 110)

Purposes

To give students practice in drawing conclusions: (1) from a set of facts; (2) from an experiment.

Procedure

In order to explain the process, some students may need assistance in drawing a conclusion from No. 1 and No. 2 before they work independently with the remaining exercises on the page.

Answers

1. Australia was soon overrun with rabbits.
2. The minerals are absorbed throughout the plant.
3. Citrus fruits contain something that cures scurvy.
4. The mouth parts, teeth, and digestive system of an animal often decide the food it eats.
5. That there was some element in whole rice that was necessary for health.

WORKING WITH WORDS OPPOSITE IN MEANING (Page 111)

Purpose

To provide experience in recognizing antonyms.

Procedure

Students should be able to follow the instructions for this page with no difficulty.

Answers

1. exit	entrance	14. morning	evening
2. fertile	barren	15. correct	wrong
3. crude	refined	16. stupid	smart
4. succeed	fail	17. difficult	easy
5. stern	mild	18. complex	simple
6. clumsy	graceful	19. vertical	horizontal
7. rude	polite	20. real	false
8. moist	dry	21. coarse	fine
9. confusion	order	22. bold	timid
10. entire	partial	23. latitude	longitude
11. attic	cellar	24. expensive	cheap
12. narrow	wide	25. calm	disturbed
13. separate	together	26. conserve	waste

27. gradual	steep	32. powerful	weak
28. swift	slow	33. fresh	stale
29. admit	deny	34. increase	decrease
30. strange	familiar	35. opposite	alike
31. victory	defeat	36. unite	divide

WORKING WITH WORDS HAVING SIMILAR MEANINGS (Page 112)

Purpose

To give students practice in working with synonyms.

Procedure

Work through the selection of the three synonyms for ancestor with the students to make sure that they understand the procedure.

Answers

1. <u>ancestor</u>	forbear	8. <u>mass</u>	lump
grandfather	forefather	bulk	heap
2. <u>main</u>	chief	9. <u>force</u>	power
first	principal	energy	strength
3. <u>route</u>	path	10. <u>serve</u>	help
road	way	aid	assist
4. <u>collect</u>	assemble	11. <u>fertile</u>	rich
gather	accumulate	productive	fruitful
5. <u>hesitate</u>	linger	12. <u>urge</u>	stimulate
pause	falter	persuade	plead
6. <u>admire</u>	approve	13. <u>difficult</u>	hard
esteem	respect	trying	toilsome
7. <u>wander</u>	ramble	14. <u>original</u>	first
stray	roam	native	primary

WORKING WITH SOCIAL STUDIES WORDS

(Page 113)

Purpose

To acquaint students with the pronunciations and special meanings of technical words commonly used in their social studies texts.

Procedure

Follow the same procedure as previously used for similar pages.

Answers

- | | | |
|---------------|-----------------|-----------------|
| 1. government | 5. civilization | 10. corporation |
| 2. social | 6. allies | 11. conquest |
| 3. region | 7. primitive | 12. location |
| 4. conquer | 8. declaration | 13. fertilizer |
| | 9. interior | |

WORKING WITH MATHEMATICS WORDS

(Page 114)

Purpose

To acquaint students with the pronunciations and special meanings of technical words that students commonly encounter in their mathematics texts.

Procedure

Use the procedure previously suggested for similar pages.

Answers

- | | | | | |
|---|---|--|--|--|
| 1. square | 2. equivalent | 3. perimeter | 4. hexagon | |
| 5.  | 6.  | 7.  | 8.  | 9.  |
| 10.  | 11.  | 12. (Any two figures enclosed with straight lines) | | |

13.



14.



15.



WORKING WITH NEW WORDS WHICH YOU WILL MEET IN UNIT NINE (Page 115)

Purposes

(1) To acquaint students with the pronunciations and meanings of new words they will meet in the next unit; (2) to provide them with an opportunity to apply the word attack skills reviewed while working with Book I.

Procedure

Use the same procedure as that previously suggested for preceding pages.

Answers

1. kindling

7. torch

12. breechclouts

2. burin

8. bronze

13. religion

3. smelting

9. gourd

14. mescal

4. tunnel

10. sandal

15. tetrachloride

5. canteen

11. bicarbonate

16. mammoth

6. character

17. Otah

Procedures for Teaching
UNIT NINE

IN BEGINNING DAYS

The topic of primitive life was chosen because it is of interest to high school students, it is a topic frequently taught in high school classes, and it offers possibilities for related teaching of reading skills in several subject fields.

OTAH MINES FOR SALT
(Pages 116-117)

Purposes

(1) To provide an interesting narrative; (2) to develop appreciation through such activities as making inferences in regard to deeper meanings, deciding upon the cause of a character's behavior, asking the student to put himself in a character's place and to decide upon the emotion he might have experienced, and understanding factual background on which a story is based; (3) to give practice in timed reading to develop speed; (4) to check literal comprehension in relation to speed; (5) to provide leads to other subject areas.

Procedure

Follow the usual procedure of stimulating students to read the story for enjoyment. Especially emphasize to them the desirability of reading as fast as they can. Be sure to have them compare their speed and comprehension scores in reading this story with those made while reading "Blessing from the Rain-tree," pages 46-47, the first story which they read under timed conditions.

Answers

Comprehension Questions

1. In salt mines
2. Breechclouts, sandals, headbands
3. Because they didn't belong to Otah's clan
4. With torches
5. Pits in walls; burned torches, worn-out sandals, broken canteens on floor
6. Picks and hammers

7. Threw it on a deerskin
8. Stuffy air, salt dust
9. Pieces of mescal plant
10. Trade it

Discussion Questions

Answers to 1, 2, 3 and 4 will probably be the same. Accept sensible answers, however, even though they do vary from those given below.

1. Yes. To do something worth while with the grown-ups
2. He knew the salt would make Otah thirsty.
3. To see how they did the mining
4. Yes. Iodine
5. (a) Yes. Because it is necessary for health and for preserving food.
(b) No. People of today wouldn't work that hard even if they went without salt.

THE AGES OF MAN (Pages 118-119)

Purposes

This social studies selection is provided for the purpose of giving students practice on the following skills: (1) reading pictures representing time periods in history; (2) converting boldface headings into questions; (3) reading to answer questions; (4) associating dates with events in sequence; (5) recalling historical events in sequence; (6) reading under timed conditions to increase speed in reading social studies material.

Procedure

Make sure that the students read all boldface headings and convert them to questions before they attempt the timed reading.

Be sure also to have the students compare their rate and comprehension scores made while reading this social studies article with those made while reading the social studies selection in Unit Seven.

Students will require guidance in making their "History Time Line." This time line is not to be made according to a mathematical scale. It is preparation for work that students will do with a scaled time line on page 122.

Reference to the time line in the answers will indicate the format and content that should appear in the students' time lines. It is advisable to draw a line on the board, and to work with the students in recording the information for the first one or two ages.

Answers

Comprehension Questions

- | | | |
|-----------------------------------|----------------------|-------------------------|
| 1. a. New Stone Age | 4. b. the burin | 8. b. write |
| 2. c. materials used
for tools | 5. c. make paintings | 9. a. smelting |
| 3. c. China | 6. b. herdsman | 10. c. is still with us |
| | 7. c. metals | |

Working with a History Time Line

1,000,000
Years Ago

1. Primitive Man
Important events:
a. Oldest bones found in Java, Europe, South Africa, China.

500,000
Years Ago

2. Old Stone Age
Important events:
a. Man learned to make stone tools.
b. Man learned to use fire.
c. Man invented the burin.
d. Man learned to weave baskets, make pottery, draw, paint, carve, build huts, live in small settlements, possibly to worship.

6,000 B.C.

3. New Stone Age
Important events:
a. Man learned to grind and polish tools and weapons.
b. Farming, village life, and government had their beginnings.
c. Religion was born.

3,000 B.C.

4. Age of Bronze:
Important events:
a. Discovery of metals to use in making tools
b. Discovery of the smelting process
c. Beginning of writing, coins, shipbuilding, use of the wheel

1,000 B.C.

5. Iron Age
Important events:
a. Finding and smelting of iron
b. Use of iron spread rapidly and is still with us.

THE NATURE OF FIRE

(Pages 120-121)

Purposes

This selection in science was provided for the purpose of affording practice: (1) in identifying and effectively reading a selection containing three different patterns of writing—factual material, explanation of a process, and cause-and-effect material; (2) in reading and following directions for an experiment; (3) in reading under timed conditions to increase speed in reading science material.

Procedure

Discuss with the students the fact that many chapters in their science books may contain several of the different patterns of writing and that they need to recognize these different patterns and adjust to them. They will have practice in doing this in this selection on "The Nature of Fire."

Call attention also to the fact that they are asked to time their reading of this science selection and that they will have a chance to compare their rate and comprehension scores with those last made in reading a science article.

Be sure that they record their different speeds for reading a story, a social studies article, and a science article in the space provided on page 121. Take time to discuss these different speeds as suggested in the paragraph following.

Allow a score of 10 for each of the correct responses to questions or completion statements in Activity 1.

Answers

Activity 1—How? What? Why?

1. By rubbing two dry sticks together
2.
 - a. A substance that combines with oxygen
 - b. A kindling temperature
 - c. Oxygen
3.
 - a. there is nothing left to burn.
 - b. wet wood has a higher kindling temperature.
 - c. oxygen is cut off.
4.
 - a. water in the solution raises the kindling temperature and the carbon dioxide shuts out air.
 - b. it floats on the surface and shuts out air.
 - c. it forms a vapor blanket to shut out air.

Activity 2—Reading Directions for an Experiment

Have the students check their directions against the printed directions.

Their conclusion should be: The candle goes out because the carbon dioxide forms a blanket of vapor that shuts out the air.

READING AND THINKING IN MATHEMATICS

(Page 122)

Purposes

This page is designed to give practice on the following mathematics skills: (1) following exact directions for making a time line; (2) following directions for making a graph; (3) applying all skills learned in reading problems effectually.

Procedure

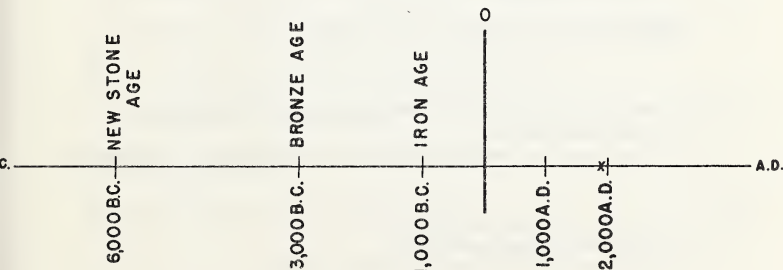
This is essentially a review page, although emphasis is placed on the exact reading of detailed directions such as students find in their mathematics textbooks.

There is little to be done in the way of supplemental instruction on the part of the teacher. Students should be warned, however, to carry out instructions exactly.

Answers

Activity 1—Making a Time Line in Mathematics

Have the students check their time line point by point as you read orally the directions in their book. The finished time line should look like this:



Answers to questions: 1. Shorter

2. Equal

3. $\frac{1}{3}$

Activity 2-Reading Problems

1. 490,000 years 2. 26 hours 3. 913 feet

CHOOSING THE RIGHT DEFINITION (Page 123)

Purpose

To give experience in selecting, for a given context, the right dictionary definition from the several definitions for a word.

Procedure

If students need help in addition to the directions in their book, supplement in any way that seems advisable.

Answers

A. block

- a. 3. a quantity of things dealt with as a unit
- b. 1. a piece of wood or stone
- c. 2. a mold or form upon which articles are shaped

B. border

- a. 5. a long narrow bed used for continuous planting
- b. 3. a boundary of a state or settled country
- c. 2. an ornamental strip around the edge

C. character

- a. 3. a person in a story
- b. 2. moral vigor or firmness
- c. 4. an odd or eccentric person

D. plot

- a. 1. a small area of land
- b. 2. a map
- c. 4. the plan or main story in a novel, play, or poem

E. organ

- a. 2. a part of an animal or plant adapted to a specific function
- b. 1. a musical instrument
- c. 3. an instrument or medium by which an important action is performed

F. mine

- a. 4. a rich source, abundant store
- b. 5. an explosive charge in the water
- c. 1. a pit in the earth containing precious minerals

CRITICAL READING

(Pages 124-125)

Purpose

To develop the ability to evaluate and pass judgment upon a printed selection.

Procedure

Explain to the students that critical reading is the highest of the hierarchy of skills in reading for meanings. In critical reading they not only have to interpret deeper meanings, but they must go farther and evaluate—judge and decide upon the authenticity of what is said.

It would be advisable to read the explanations and directions on this page with them, and to elaborate upon them and further emphasize the need for critical reading at the present time.

Varied answers may be given. Any answer that shows critical reading and thinking should be accepted. Some of the most likely answers are given below.

Answers

1. (a) City people thought he didn't know what eggs were worth. (b) No.
(c) Because the sign was different, it attracted their attention.

2. (a) No. (b) The use of tricks is not an honest way to make money.

3. (a) No. (b) When she fastened my seat belt, I would know there was possible danger ahead.

4. (a) I might have; (b) I normally like to be agreeable.

5. (a) the shoe clerk's truck; (b) It is fair that the customer wait.

6. No. Customers might come in out of sympathy.

7. Answer varies with individuals.

8. Think and question

9. Wait until I can get more information

CHANGING MEANINGS BY ADDING PREFIXES

(Page 126)

Purpose

This page is planned: (1) to give experience in changing word meanings by adding prefixes to words; (2) to check the understanding of these changed meanings by using the prefixed words in sentences.

Procedure

Follow the procedure given in the students' book.

Answers

- | | | |
|-----------------|------------------|-----------------|
| 1. misstep | 9. outdoors | 17. overview |
| 2. unlighted | 10. overrule | 18. misdirected |
| 3. underlighted | 11. underbrush | 19. overtime |
| 4. unclouded | 12. underfed | 20. mislaid |
| 5. misfortune | 13. transplanted | 21. outwit |
| 6. output | 14. undercurrent | 22. overgreedy |
| 7. unable | 15. underground | 23. transformed |
| 8. uncooked | 16. outbark | 24. uncommon |

CHANGING MEANINGS BY ADDING SUFFIXES

(Page 127)

Purposes

This page is planned to give experience: (1) in changing meanings by adding suffixes; (2) in checking the meanings of suffixed words by using them in sentences.

Procedure

Follow the procedure given in the students' book.

Answers

- | | | |
|---------------|----------------|-----------------|
| 1. artists | 9. settlements | 16. pointless |
| 2. government | 10. Colonist | 17. pianist |
| 3. shapeless | 11. wooden | 18. eaten |
| 4. miners | 12. realist | 19. waterless |
| 5. sweetness | 13. lifeless | 20. arrangement |
| 6. bagful | 14. eventful | 21. helpful |
| 7. meatless | 15. higher | 22. rapidly |
| 8. kindness | | 23. fireless |

WORKING WITH WORDS OF MULTIPLE MEANINGS (Page 128)

Purpose

To give experience in recognizing different meanings of the same word when used in different subject fields.

Procedure

Follow the procedure given in the students' book.

Answers

- | | | |
|---------------|----------------|--------------------|
| 1, 2. mouth | 11, 12. basin | 21, 22. deposit |
| 3, 4. stock | 13, 14. stage | 23, 24, 25. bar |
| 5, 6. current | 15, 16. plant | 26, 27. cone |
| 7, 8. scale | 17, 18. plot | 28, 29. column |
| 9, 10. force | 19, 20. figure | 30, 31. settlement |

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APR 6	RETURN		
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